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"Lease Size" Low Temperature Gasoline Plants

By Dave Vondy, H. B. Zaremba and L. L. Laurence
Black, Sivalls & Bryson, Inc.
Oklahoma City, Okla.

INTRODUCTION

Conservation of low pressure casing head gas by reinjection into oil or gas reservoirs or its utilization as fuel is the current goal of many State Regulatory Bodies. The resulting legislation toward that end is posing a serious economic problem for small lease operators. The large investment in compressor equipment and gathering and distribution systems seldom shows attractive pay-outs from the sale of the higher pressure gas alone. On the other hand, recovery of the hydrocarbon liquids contained in the low pressure gas has been, until recently, economically unfeasible for processing volumes under 15 to 20 MMSCFD. Thus, for operators of isolated leases which produce relatively small volumes of low pressure gas or where the reserve picture cannot justify the large capital investment in the "permanent" type gasoline plant, an alternate solution is mandatory. Process equipment manufacturers have risen to this challenge through the development of the "lease size" gasoline recovery plant. These plants not only offer the small operator a reasonable return on investments required to meet conservation laws but, in fact, present extremely attractive economics in any circumstance where the gas composition and the market for the recovered products meet certain minimum specifications.

The trend in the design of lease size plants has followed two distinct patterns:

a. Absorption type plants
b. Low temperature refrigeration type plants.

The absorption type plant embodies the same basic components which are characteristic of the larger, permanent type gasoline plant. The low temperature plant, on the other hand, depends on an old principle utilized in a new way which permits a simplified, compact design and results in a generally lower initial cost when compared to the absorption type plant. Operational and maintenance problems are similarly reduced and, finally, the added function of residue gas dehydration can be credited to the low temperature plant. The following discussion presents one manufacturer's experience in the design operation and economics of the low temperature refrigeration type gasoline plant.

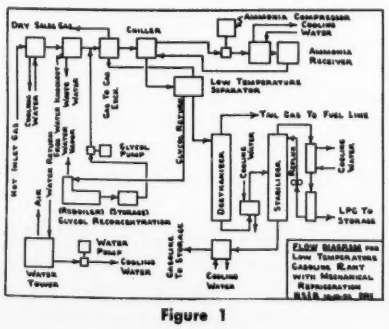


Figure 1

PLANT DESIGN, INSTALLATION AND OPERATION

As is implied by its name, the basic principle of recovery of the low temperature type gasoline plant depends on the condensation of the gasoline and LPG components of a gas through compression and cooling of a low pressure gas stream. While this principle of recovery has been known for many years, its practical application has been limited due to the the formation of hydrates in a water saturated gas stream at relatively high temperatures. These hydrates cause the plugging of lines, vessels, control valves, etc., by freezing. This problem has been overcome by the injection of a solution of diethylene glycol into the process stream prior to chilling. The effect of the presence of the glycol in the gas is to greatly lower the freezing point of

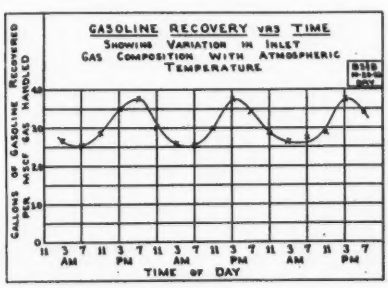
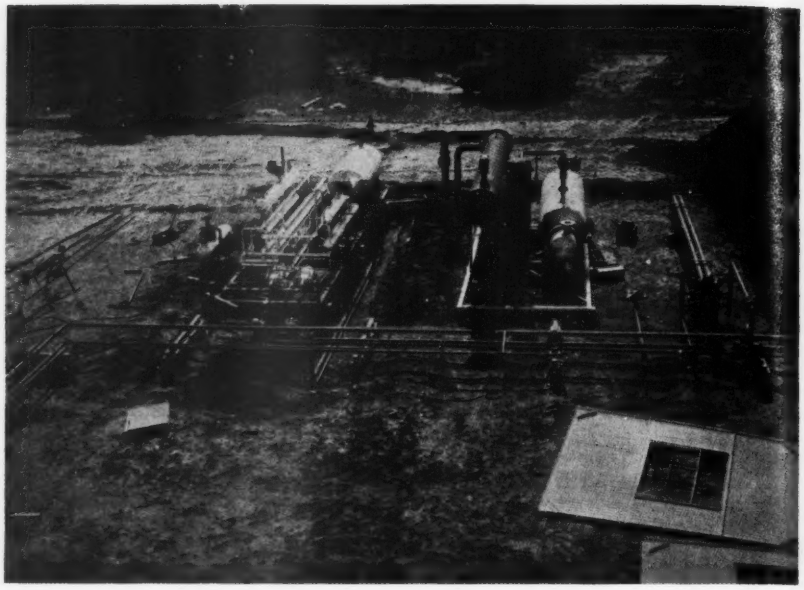

GASOLINE RECOVERY VRS TIME
Showing Variation in Inlet Gas Composition With Atmospheric Temperature
Gallons of Gasoline Recovered per MSCF Gas Handled
Time of Day

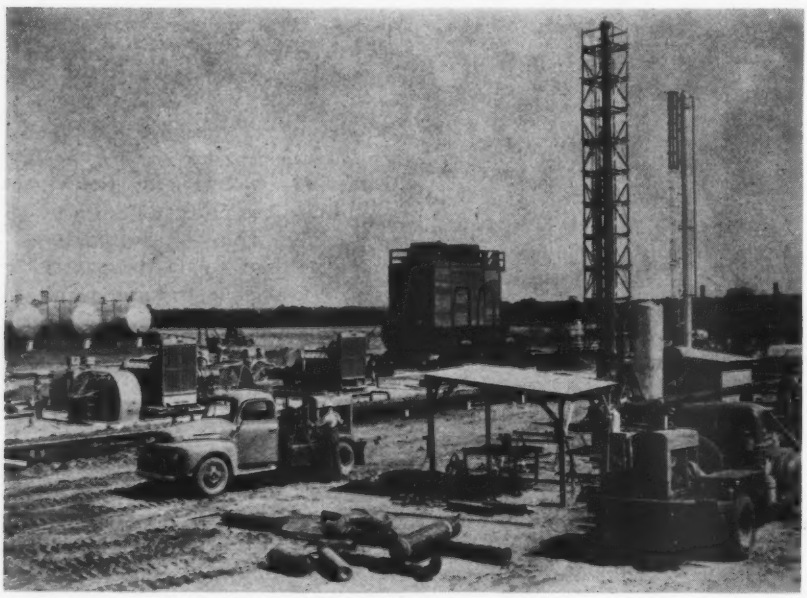
Figure 2

the free water which also condenses in the process and to inhibit hydrate formation. Provisions for the recovery, regeneration and re-use of the glycol in a continuous process limits the glycol loss to a minimum and makes the system economically possible.

Figure 1 is a basic flow diagram of a typical low temperature plant processing low pressure gas from lease separators and crude oil treating equipment. The gas is compressed to a plant operating pressure which is generally determined from the desired sales line pressure. In cases where high pressure reinjection of the residue gas into a reservoir is desired, the plant may be designed to operate at one of the intermediate stages of compression. The hot compressed gas is cooled to approximately 85°F. in the aftercooler and then passes through a free water knockout where condensed water is discharged to waste. Some hydrocarbon liquids are also condensed at this point but these are retained in the process stream. A predetermined amount of diethylene glycol solution is injected here to inhibit hydrate formation and to absorb additional water vapor and/or free water from the gas. The process stream then enters a gas to gas heat exchanger where it is precooled by the cold residue gas from the low temperature separator. Final cooling to approximately 0° F. is accomplished in the process stream chiller. An ammonia compression, condensation and expansion cycle is utilized to produce the required refrigeration duty. All condensed hydrocarbon liquids and the glycol-water solution are separated from the cold residue gas in the low temperature separator. The cold residue gas is utilized in the gas to gas heat exchanger prior to discharge into the sales line or to higher stage of compression. The majority of the glycol-water solution is also separated at this point and returned to the glycol regenerator where the excess water is removed.



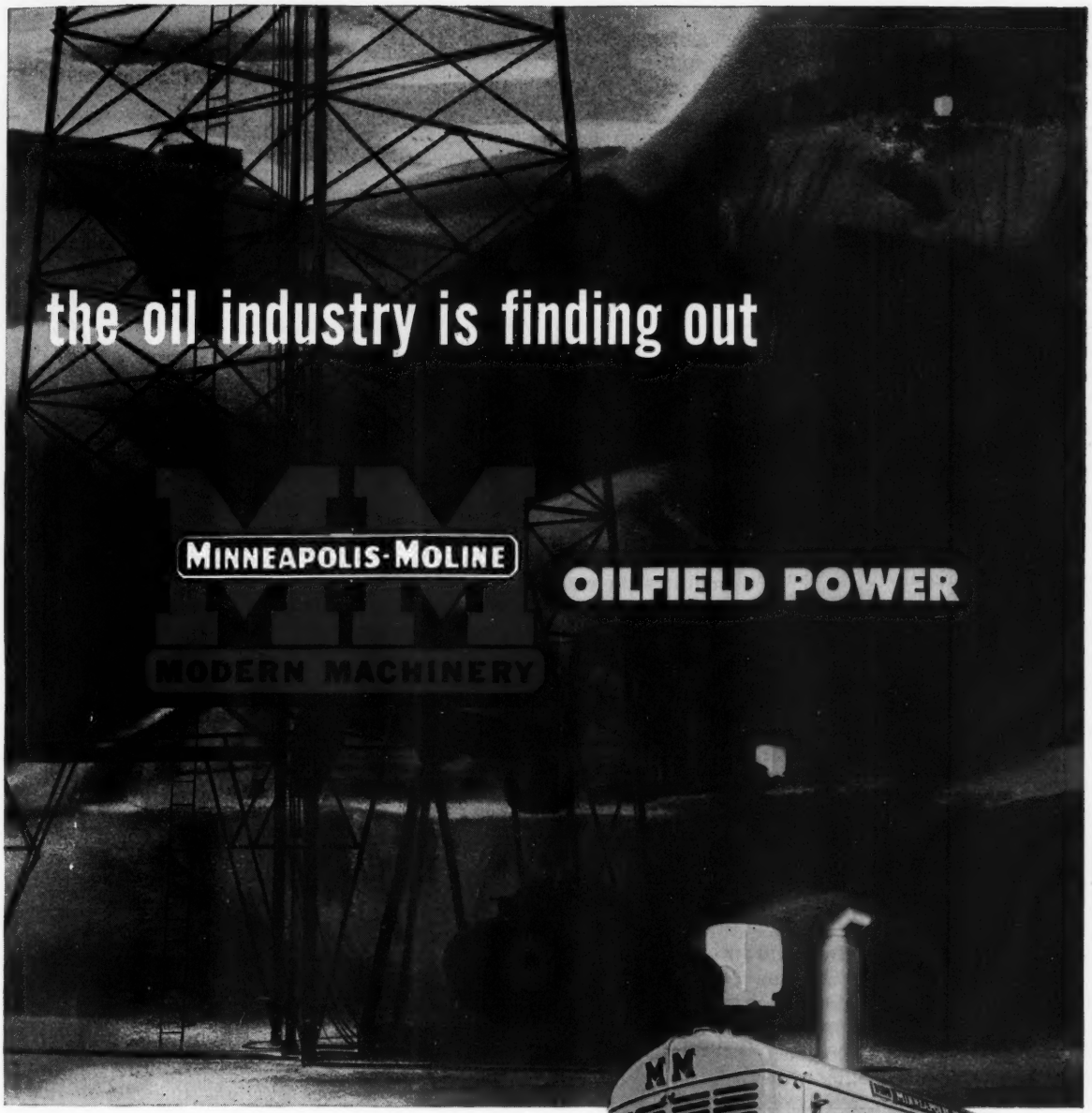
Picture 2



Picture 1

The hydrocarbon condensate from the low temperature separator contains a considerable amount of methane and ethane as well as the heavier gasoline and LPG components (propane and butanes). These undesirable light components are removed in the de-ethanizer column which operates as a cold feed, non-refluxed fractionator. The feed is admitted to the top tray of the column and, due to its very low temperature, provides sufficient internal reflux to satisfactorily control the fractionation. Further control of this column is accomplished by varying its operating pressure and bottom temperature. The optimum settings of these variables depend on the feed composition and the desired end products. The overhead tail gas from this column is utilized as fuel for the indirect heater reboilers, glycol regenerator and gas compressor engines and as supply gas for instrument operation and glycol injection pump power. The liquid from the bottom of the de-ethanizer column is further fractionated in the stabilizer column into a stable gasoline from the bottom and a propane-butane mixture LPG from the top. The stabilizer operates as a conventional fractionator with an external condenser, accumulator and reflux system.

Cooling water for the ammonia



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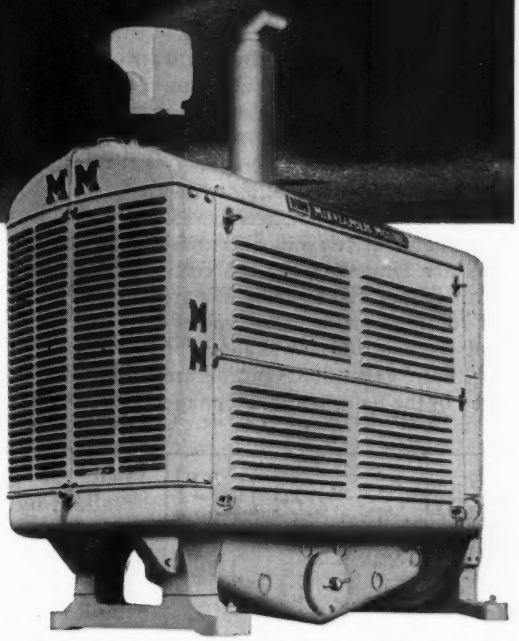

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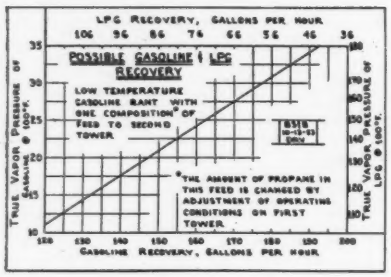
LPG RECOVERY, GALLONS PER HOUR
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LOW TEMPERATURE GASOLINE PLANT WITH ONE COMPOSITION* OF FEED TO SECOND TOWER
B5IB 10-15-53 DRY
*THE AMOUNT OF PROPANE IN THIS FEED IS CHANGED BY ADJUSTMENT OF OPERATING CONDITIONS ON FIRST TOWER.
TRUE VAPOR PRESSURE OF GASOLINE @ 100°F.
TRUE VAPOR PRESSURE OF LPG @ 100°F.
GASOLINE RECOVERY, GALLONS PER HOUR

Figure 3

condenser, gas aftercooler, reflux condenser and product coolers is circulated by electric driven centrifugal pumps and is cooled in an induced draft cooling tower.

This description of the process illustrates the simplicity of the recovery method. No special provisions or expensive fractionation equipment are required to handle an absorption medium. The final installed cost of the plant is further reduced by the consolidation of the major items of process equipment on factory assembled skids. Pictures 1 and 2 show a 5 MMSCFD plant in its final stages of installation in a Southern Oklahoma field. Here, the free water knockout, glycol pumps, glycol-condensate separator, low temperature separator, process stream heat exchanger, chiller, reflux condenser and pump, LPG accumulator and product coolers and mounted on three skid units. The fractionation columns are independently set on concrete foundations and are self-supporting. The indirect heaters, glycol regenerator, water pumps and cooling tower are mounted on light concrete bases. The gas engine driven ammonia compressors are located in the gas compressor building. The equipment is arranged for easy maintenance, inspection and overhaul and also to allow for possible future expansion. Controls are installed in the field to avoid damage in shipment as is the insulation. Although the plant cannot be moved as a unit, it is sufficiently consolidated to permit easy handling. Pictures 3 and 4 show a 2 MMSCFD plant installed in Northern Texas in operation.

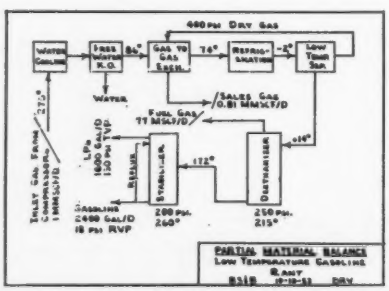

Figure 4

Some of the special problems inherent in the "lease size" gasoline plant design and operation can best be illustrated by reviewing data gathered from this latter installation. First the composition of the inlet low pressure gas was found to vary considerably during the course of the day. This was mostly due to the varying separation pressures and crude oil treater operating temperatures.

Figure 2 is a plot of natural gasoline recovery vs. time and clearly indicates the extent of the variation in the composition of the plant intake. This might easily be representative of most lease operations and illustrates the difficulty in obtaining a true, representative gas sample on which the estimated recoveries, plant design and economic study should be based. Possibly, the best solution to this problem would be to sample the rich gas two or more times during a 24-hour period when normal separating and treating conditions prevail.

The market value and quantity of each product which can be produced determine the best conditions under which to operate the plant for maximum income. Figure 3 is a plot of recovery of various vapor pressure gasoline and LPG products for a 1.43 MMSCFD inlet gas rate. A high vapor pressure LPG which contains a high percentage of propane and the maximum vapor pressure gasoline which can be sold usually results in the greatest production. However, market demand often limits the specification of one or both of the products so that the greatest income can be realized by producing a lower vapor pressure gasoline and LPG products. In the case of this plant, propane becomes surplus when producing low vapor pressure LPG and the maximum production of salable products is obtained by properly distributing the butanes between the LPG and gasoline. Figure 4 is a partial plant material balance when producing an 18# RVP gasoline and 130# TVP LPG.

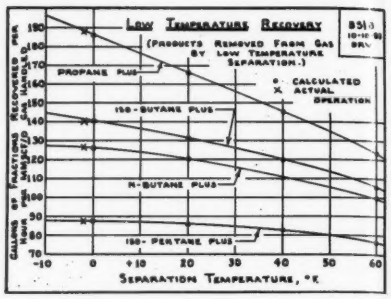

Figure 5

Figure 5 is a plot of the calculated recovery versus low temperature separator temperature as compared to that actually obtained at —2°F. This plot is interesting in that it very clearly illustrates the effect of temperature upon the recovery of various components. Because of these characteristics, it was found that the optimum separation temperature is a function of the gas analysis and the products desired. When processing gas containing a very large excess of propane and/or when recovery of a stable gasoline only is desired, separation temperatures above 0°F. are usually indicated.

The efficiency of the cold-feed, non-refluxed de-ethanizer is also of special interest, mainly because it has not been widely employed in the industry. Separating experience, however, has been very satisfactory. On this plant, for example, it was found that 96.6% of the propane plus fractions and 92% of the propane, 98.4% of the iso-butane plus fractions were recovered by the non-refluxed tower on a volume percent basis, based on the liquid feed to that tower. At the same time, less than 2 mole % of ethane was allowed to remain in the bottom prod-

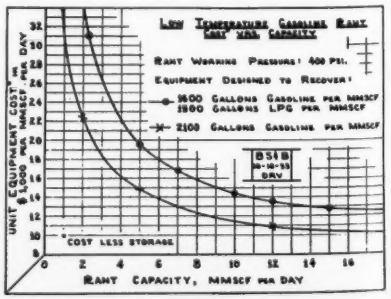
LOW TEMPERATURE GASOLINE PLANT COST VRS. CAPACITY
PLANT WORKING PRESSURE: 400 PSI.
EQUIPMENT DESIGNED TO RECOVER:
1600 GALLONS GASOLINE PER MMSCF
1800 GALLONS LPG PER MMSCF
2100 GALLONS GASOLINE PER MMSCF
B5IB 10-15-53 DRY
UNIT EQUIPMENT COST* IN $1,000 PER MMSCF PER DAY
*COST LESS STORAGE
PLANT CAPACITY, MMSCF PER DAY

Figure 6

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uct of the tower, when operating conditions were set for maximum propane recovery and when the feed contained approximately 24 mole% ethane and lighter fractions.

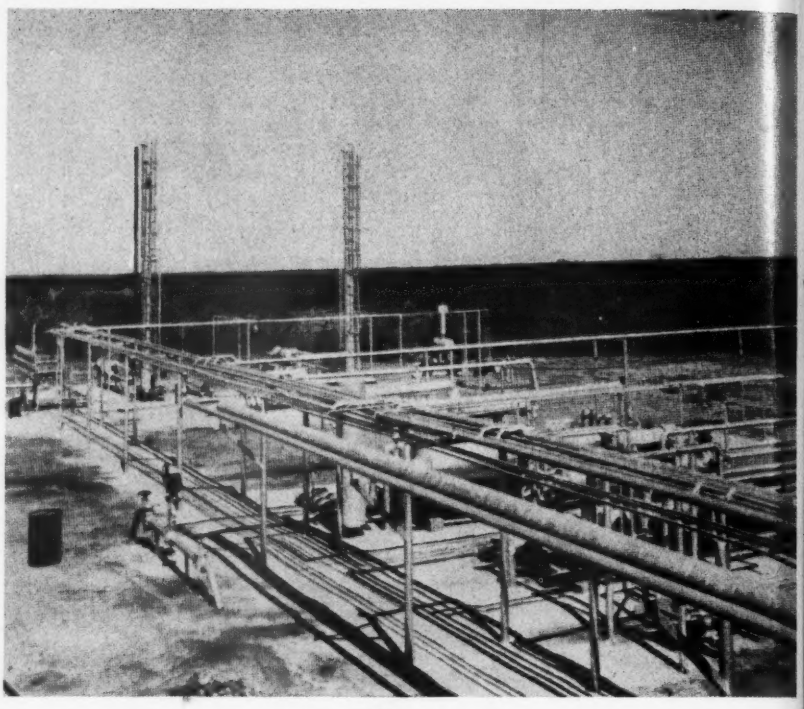
ECONOMICS

The first and most significant variable effecting lease size gasoline plant economics is the initial cost. Plant cost, of course, is a function of several factors, the most important of which are as follows:

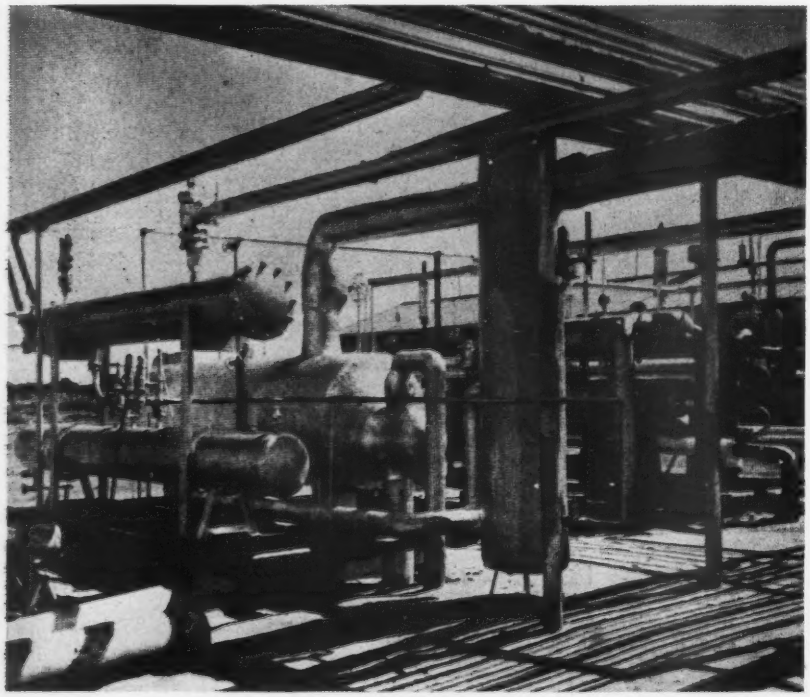
1. Gas capacity
2. Inlet gas composition
3. Plant operating pressure
4. Number and specifications of products.

Some preliminary correlations of these factors to enable estimation of plant cost are presented herein. Studies along these lines are continuing and it is anticipated that complete cost data for low temperature lease size gasoline plants will be published in the near future.

Figures 6 and 7 illustrate the cost of equipment needed to handle hot compressed gas, for the volume of products shown. The cost shown includes vessels, controls, water cooling tower, main and standby water pumps, refrigeration system, glycol and ammonia to charge the system, but less pipe, fittings and field installation. The only pipe and fittings not included are those on the interconnecting system between skids skids and in those vessels not skid mounted.



Picture 4



Picture 3

The cost as shown is, of course, not general, and would apply primarily for liquid volume in the indicated range. It was assumed that a higher vapor pressure gasoline would be produced when recovering only one product than when both LPG and gasoline were produced. This enables a maximum recovery of products for either case and is based on the greater availability of butane for gasoline when no low pressure LPG is desired.

Figure 8 illustrates how cost varies with working pressure and volume of liquid products. The calculated points from which the curves were drawn are shown to illustrate that the cost does not plot as smooth curves due to practical size limitations on equipment. For example, refrigeration equipment, even in the smaller sizes, is normally supplied in fairly large increments of capacity. Therefore, a small increase in cooling load might require the next larger size and cause a discontinuity in the curve.

While plant first cost is of primary importance, the pay-out period or the time required for a plant to clear the original investment is the true yardstick of any economic anal-

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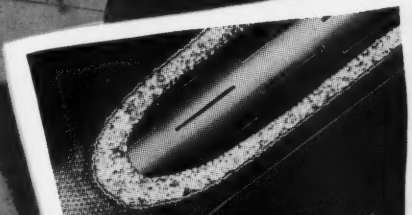

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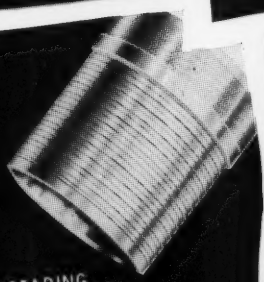

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ysis. Factors affecting the payout period include:

1. Original equipment and installation cost
2. Direct and indirect operating expense charged against the plant
3. Market for products
4. Royalty payments
5. Chargeable depreciation
6. Tax structure

Figure 9 illustrates the estimated payout time for a plant having a working pressure of 400 psi and operating at both full and one-half capacity. The latter value is included only to show the effect of operating such a plant at partial capacity when unforseen circumstances make this necessary. In preparing these data, the following assumptions were made:

1. 355 day per year operation.
2. Two product plants require one man more than the one product plants. One product plants require two men for for the 2 million size, 3 men for the 5 million size and 4 men for the twelve million size.
3. Other direct operating expenses amounting to approximately $6 per MMCF of gas handles.
4. Storage for 2½ days in 25 psi gasoline tanks and 250 psi LPG tanks are included in the equipment cost.
5. Installation cost equal to one-half the equipment cost.
6. Depreciation and amortization period of twenty years.
7. 20% reduction in gas volume due to removal of products, figured at 0.10 dollars per MCF, charged against the plant.
8. Value of products on location:
   a. Gasoline, 6 cents per gallon.
   b. LPG, 4.5 cents per gallon.
9. Full ownership of gas.
10. Taxes, insurance, and interest on investment have not been considered.
11. Sale of the gas will pay out the compressors and gathering system.

The curve for one-half capacity is also approximately true for installations to recover one-half the volume of products given if storage for 5 days production is installed. It is felt that the following conclusions can be drawn from the charts presented taking into consideration the given assumptions:

1. The pay out time for a small plant handling rich gas may be less than for a plant several times as large handling lean gas.
2. The smallest plant which will show a good return on the original investment is probably between one and two MMSCFD, depending upon the composition of the gas to be processed. (Total product recovery of less than 3,000 gallons per day is usually not practical).
3. The pay out time for a two-product plant is about the same as for a one-product plant.
4. The two-product plant should show a larger net profit than the single product plant.
5. A small plant can be economical if full consideration is given to the factors involved.

A significant factor in these economics is the tax structure. Under certain conditions, a plant may be subject to a tax approaching 52% of the net profit, assuming a corporate structure. For this reason, some advantage can be shown for a joint venture and partnership arrangements when the plant operator is not the producer in the field. It is obvious that certain tax advantages can be shown when the plant is operated by the producer, rather than some outside party.

Recovery of more than two products is sometimes justified as in cases involving an excess of propane and when a local market for commercial propane exists. In these cases, an additional tower may be required. Similarly, when an entire wellstream is flowed to a plant, a stripping column may be required to reduce the end point of the product to meet natural gasoline specifications. The bottoms from this stripping column can then be sold as crude oil. However, in many cases of that nature, sale of the total condensate product as crude oil rather than as natural gasoline has economic advantages. This would apply in instances where the volume of recovery is small, the plant is remote from a natural gasoline market, transportation facilities for natural gasoline are unreliable or the market is not steady.

SUMMARY:

The "lease size" low temperature refrigeration type gasoline plant has both economic and process advantages which make it a valuable addition to gas processing equipment. Many variable factors must be considered before that recovery system which will be the least expensive or will show the largest return on the investment, can be selected for a particular situation.

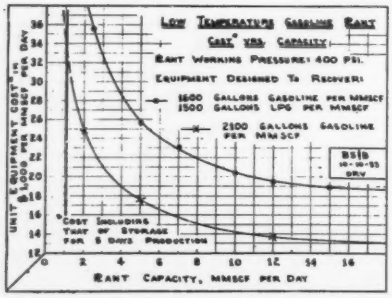
Low Temperature Gasoline Plant
Cost* vrs. Capacity
Plant Working Pressure: 400 psi.
Equipment Designed To Recover:
1600 Gallons Gasoline per MMscf
1500 Gallons LPG per MMscf
2100 Gallons Gasoline per MMscf
B&B 10-10-55 DRW
*Cost Including Cost of Storage for 5 Days Production
Unit Equipment Cost* in $1,000 per MMscf per Day
Plant Capacity, MMscf per Day

Figure 7

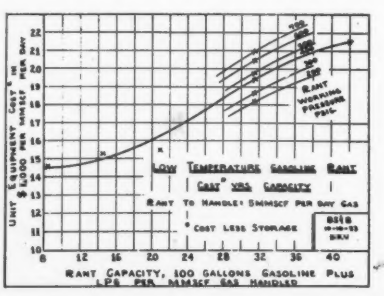
Low Temperature Gasoline Plant
Cost* vrs. Capacity
Plant To Handle: 5MMscf per Day Gas
*Cost Less Storage
B&B 10-10-55 DRW
Unit Equipment Cost* in $1,000 per MMscf per Day
Plant Capacity, 100 Gallons Gasoline Plus LPG per MMscf Gas Handled

Figure 8

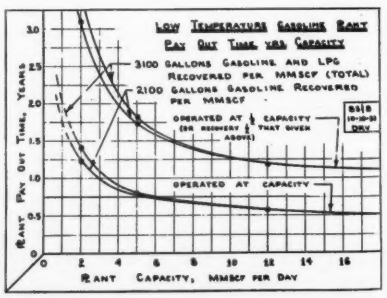
Low Temperature Gasoline Plant
Pay Out Time, vrs. Capacity
3100 Gallons Gasoline and LPG Recovered per MMscf (Total)
2100 Gallons Gasoline Recovered per MMscf
Operated at ½ Capacity (½ Recovery Above)
Operated at Capacity
B&B 10-10-55 DRW
Plant Pay Out Time, Years
Plant Capacity, MMscf per Day

Figure 9

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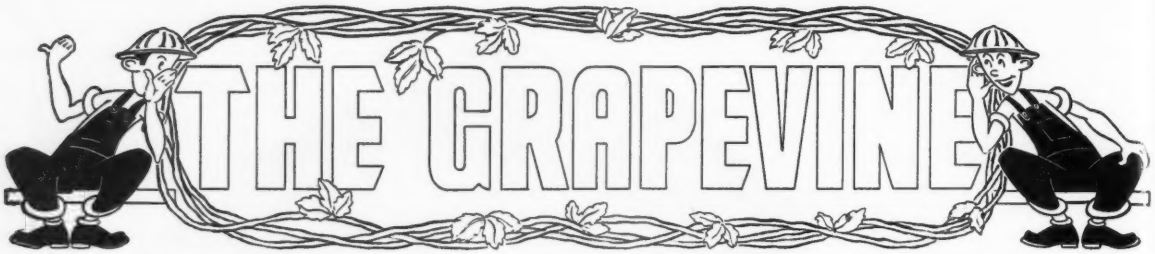

One of the most interesting organizations extant and one that continues in an amazing way to receive national acclaim is Petroleum Production Pioneers, which at the moment has well over 2000 members and is still growing like the proverbial weed. The original conception of such an association took place a little over ten years ago in the fertile minds of three well known oil people, to wit, S. H. "Henry" Grinnell, then superintendent of service and maintenance for Union Oil Company, now a general contractor; Glenn Merkley, young National Supply Company executive; and Lou Bronzan, former vice president of Baash-Ross Tool Company, now vice president of Adel Precision Products. This trio used to meet at intervals for lunch and among the subjects that came up for discussion was the at first somewhat nebulous idea of starting a pioneer oil men's group. They had little thought then that their dream would develop into anything nearly so substantial as the pioneer group is today. But, as the prospect was explored, it did eventually begin to take shape and eventually they decided to test the reaction of others to their baby.

The invited twenty-seven people to a dinner meeting at the Los Angeles Athletic Club on January 26, 1944 at which they disclosed what they had been thinking about. Among those present on that now historic occasion were L. B. Little, Frank Hill, Denny Driscoll, A. E. Fowks, Ben Youngken, Frank Dinger, Lawrence Baash, Jack Reed, Neil Needham, and George Kammerer, Representing the slightly younger segment of the industry were Ernie Fowks, Frank Boyd, Clarence Froome, Lou Bronzan, Harry Farquhar, Charlie Perkins, John Spalding, Ed Timbs, Forest John, Harry Kirkwood, Dutch Brown, Ray Judy, Bo Robertson, Jack Pate, Glenn Merkley, Swede Larson, ourself, and Henry Grinnell. The latter, acting as chairman, outlined the basic ideas of the originating trio and they met with a very enthusiastic reception. Accordingly a small group, consisting of Lou Bronzan, Henry Grinnell, Glenn Merkley, and Ernie Fowks, was delegated to confer with Lin Little and Frank Hill on the formulation of a concrete plan. Yours truly was elected secretary and has continued to function in this capacity in a somewhat feeble way ever since.

The special committee did a nice missionary job and succeeded in enlisting to the cause such substantial oilmen as Cy Rubel, Jim Gosline, Walter Elliott, Max App, Roy Curl, Dick Boggs, Al Fraser, Clarence Hill, Wendell Jones, George Trembley, Jules Axelson, Prep Wells, Bob Lytle, Ed Webb, Larry Porter, Tom Atkinson, Ox Morgan, Ted Sutter, John McEwen, Bill Farrand, Duke Follansbee, Hudson Drake, Russ Green, Lee Bushard, and many others. By May 18, 1944, Ernie Fowks who seemed to be a sort of unofficial sergeant-at-arms, was already making arrangements at the Clark Hotel for a dinner gathering of 150 persons and from then on the organization like Topsy just growed and growed. As is bound to happen in an institution of this sort there were a few individuals who became impatient and were somewhat disturbed because the early conventions were altogether social and lacked a real worthy objective. But that was never the main purpose, although it was an important one, for there is no question that the mere development of a bond between the retired members of the industry and the younger men who succeeded them was in itself a very good thing both for the industry and its people.

There is no need here to go into detail as to the evolution of the rules and regulations governing the Petroleum Production Pioneers. It is sufficient to say that the membership ratio was set at 4 to 1, that is, 4 seniors with 30 or more years in the production or related end of the business, to 1 junior with 10 or more years to his credit. The supply and equipment industry, as it should be, was considered an integral part of the petroleum industry and its members were eligible to join on the same terms as the production people. Much of the credit for securing the Articles of Incorporation and defining By-laws must go to Marcus Mattson of the firm of Lawler, Felix and Hall, who gave generously of his time and sage counsel to this exacting and tedious task. Some indication of his legal thoroughness is to be found in the fact that since he drafted the By-laws in 1947 they have remained virtually unchanged.

One of the reasons that Petroleum Production Pioneers has continued its uninterrupted expansion over the years is that it has always been powered by top executive talent. Its first president was Henry Grinnell who was largely responsible for the initiation of the organization. Then came Jim Gosline, the rising Standard Oil executive, who is now attending the special business administration course at Harvard University. Jim nursed the association for three years through the difficult formative period of its growth

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when plans and policies were becoming jelled and the entire plan was just beginning to take permanent form. Following Jim were Russ Green, the Signal Oil & Gas Company higher up who for many years was one of the Wildcats' better thespians, and under whose leadership PPP bloomed with unabated vigor; S. F. Bowlby, Shell Oil Company vice president, whose executive and administrative ability advanced the cause in a remarkable way; L. L. Aubert, Bankline president, who is at the moment and has been for a long time one of the busiest men in western industry; A. C. "Cy" Rubel, Union Oil Company vice president, virtuoso of the musical saw, and one of the earliest members and boosters of the PPP in all its phases; and last but by no means least, Ben Anderson, the Continental Oil Company production chief, who is currently doing an outstanding job as prexy.

It should perhaps be explained that the junior members of PPP are the workers and at all meetings, no matter what their purpose, the seniors are ostensibly their guests. However, the organization is unique in that it has two sets of officers, regular and honorary. Among those who have held the office of honorary president are such notables as Lin Little, retired Standard Oil Company executive and one of the founders; F. F. Hill, former director of production for Union Oil Company, an entertaining after-dinner speaker and a stout supporter of the PPP idea from the start; Dick Guiberson, widely known equipment manufacturer, artist, poet, singer, and almost anything else you want to name in a cultural way; the late Bill McLaine, former General Petroleum Corporation vice president, graduate of Stanford's second graduating class, and one of nature's noblemen; Jud Hillman, president of Hillman-Kelley scion of a noted oil house, and himself one of the best known and highest regarded of western equipment manufacturers; R. E. Stearns, Universal Consolidated Oil Company vice president, and a big game hunter and fisherman of more than passing renown; Max App one of the most important of the flying horsemen who is fast becoming one of California's leading cattlemen; R. A. "Broomie" Broomfield, former Barnsdall executive now an expert horticulturalist and domino player; A. E. Fowks, retired Union Oil Company higher up who has two pioneer sons but is as alert mentally and physically as most people half his age; M. O. Johnston, president of Johnston Testers Inc., a comparatively young man who nonetheless has pioneered some mighty important tools and techniques for the oil industry.

One of the more important offices, that of historian, has been held by two persons only, Ted Sutter and Paul Andrews, since the start of the organization. Ted started in the primary stages of development and was responsible for the accumulation of a great deal of historical data, some of which under his direction was published in a lengthy article in the API Quarterly a few years ago. It was entitled, "California's Oil", was well illustrated and well done in all respects and it received wide favorable notices. Paul Andrews assumed office about three years ago and has since carried on in a very effective way. He initiated the idea of setting up markers at significant oil wells and other historically interesting sites, and running the dedication ceremonies simultaneously with the barbecues which since the beginning have been a very popular form of diversion for the members. Incidentally, it should be noted that PPP has a sort of ex-officio historical advisor in the person of that lovely and talented lady, Mrs. F. C. Ripley, Sr. She knows more about the background of California oil than anyone we've met up to the moment, and has the very essential faculty of being able to distinguish between fact and fiction in such matters, frequently a difficult thing to do.

Anyway, she is a very valuable counsellor to Paul Andrews and we

The Lufkin Line

By VIC FAWCETT

NOVEMBER IN CHICAGO

(Not to be confused with "April in Portugal")

I guess we have all read somewhere at some time or another that many great discoveries are made accidentally. Up in Room 561, Lufkin's hospitality HQ at the Conrad Hilton Hotel in Chicago during the 33rd annual meeting of the American Petroleum Institute, a new principle of pumping was accidentally discovered.

In this case, however, the greatness of our discovery is almost doomed to oblivion, but for the sake of identity we shall term it "Reverse Circulation", or "How a Lufkin Unit Performs in the Production of Extremely Light, Volatile, High Proof Amber Fluids, on the DOWN STROKE."

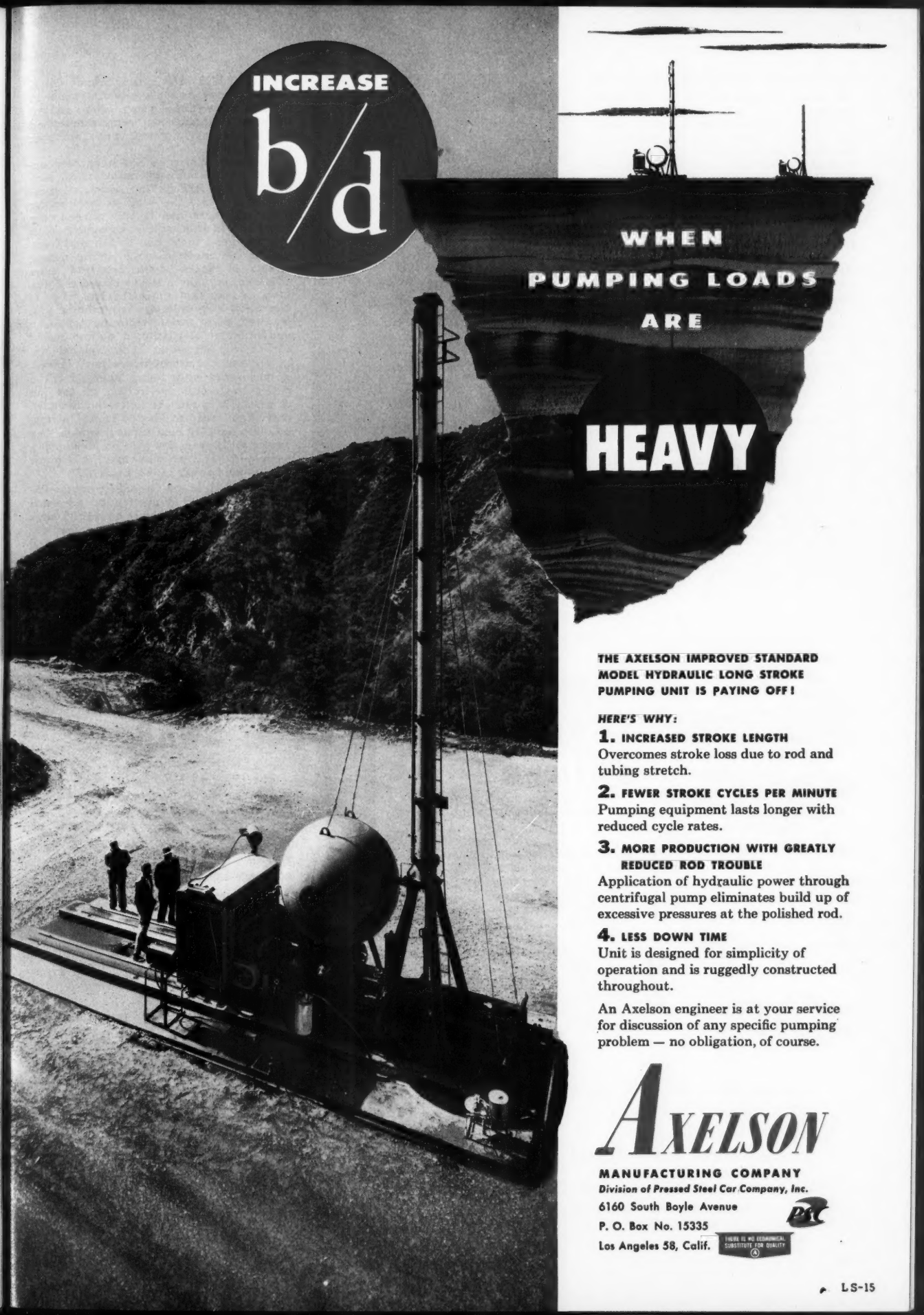
This production practice technique will never receive official API recognition, and yet we should like to say that the 1/16th scale model Lufkin Unit served faithfully—defying all existing production methods—every time the rods and pump went down—the fluid came up—and a charred barrel fluid level float dropped a little—and everybody laughed. And, thirst was quenched without delay!

Thanks to Lew Breeden, Lufkin's Effingham, Illinois representative, for rigging the pump upside down. Quite by accident, Lew discovered how to get barrels of laughs.

Production from this reservoir was never checked officially, however, it was carefully noted by most oil men that the rate was 4 D. S. P. J. (that's four down strokes per jigger).

Vic Fawcett

P.S. Outside of our mistake, the Chicago meeting was very successful with something like 6500 from everywhere.



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THE SAGA OF HOPALONG GREENFIELD

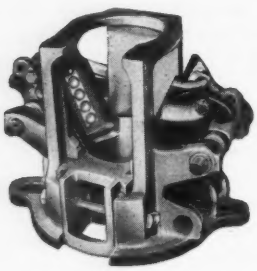
A familiar figure in the oil groves of California is that tall rangy chap, Walter Greenfield, who functions during his working hours as manager of the production department for Signal Oil & Gas Company. Walt is a native of Sugar Grove, Arkansas, but has none of the dialectal attributes or other eccentricities of his fellow Arkansans, Lum and Abner. He was graduated in engineering from the University of Akansas, Class of 1912, immediately following which he worked for a while on his dad's ranch in the White Mountain area of New Mexico, as a bronco buster. When he had most of the broncs broken and the rest very badly bent, he started his career in the oil business at Lake Arthur, New Mexico, on a wildcat cable tool job, first as a roustabout and later as a tool dresser. Then for a time he attached himself to the U.S. air service and became involved in the first world war, mostly around Texas and Oklahoma.

That was during 1917 and 1918 and when he received his discharge he began work for National Exploration Company, of which that eminent Californian, Jud Hillman, was then general manager. Here he garnered some excellent experience in the strange ways of the oil people, at one period having as many as four wildcat rigs running simultaneously. When National Exploration was sold to Shell Oil Company about 1921, Walt took off for California and thereafter was engaged in various exploratory exercises, both cable and rotary, for the Orange County

Drilling Company, owned and operated by Tuck Eden. Thence he migrated to Lawndale where he completed the field's only producing wells for J. Oscar Smith in 1927 and 1928. He joined Signal Oil & Gas Company as lease superintendent in Elwood some three years later, and at the close of another four years was named to his present important post, manager of production.

Extra-curricularly he has been very active in various industry associations, particularly the API drilling practices committee of which he was a member for about 18 years and is still an honorary member. In his spare moments, Walt and his good lady, like to fish and hunt, and to aid them in reaching the distant haunts of ducks, deer, fish and other edible fauna, they have equipped a trailer in a manner that takes the last trace of discomfort out of their peregrinations. It is fitted with water, showers, toilets, a generator for electricity, a butane fueled cook stove, hot water heater, electric refrigeration, air conditioning, and, indeed, if they were only being charged $20 a night they would be having all the fun of a stay in a modern hotel. Incidentally, they plan a trip to Mexico in this perambulating hostelry next summer, where they expect to do their first hunting for tamales, enchiladas, and the other species of game that abound south of the border.

We can't close the Greenfield saga without a word about Walt's fondess for vocal exercise. He has probably organized more quartets than the society for the advancement of barber shop harmony and his booming baritone has added body and warmth to many an anemic bit of decibel hurling.



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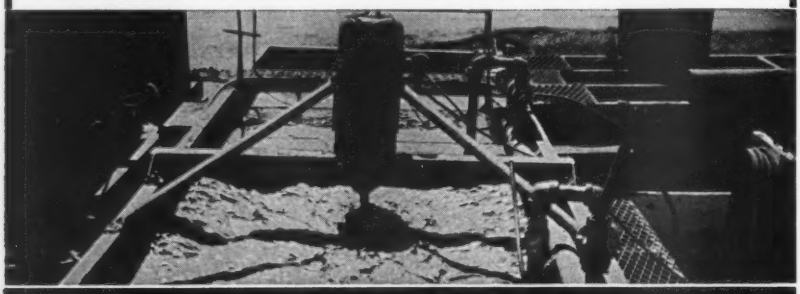

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might mention that any member of the D & D should accidentally be reading this, we might suggest that here is a lady who could make a right interesting talk at one of their meetings on a most appropriate subject. Confidentially, she might even be considered for an honorary membership if such things are ever awarded in D & D. Certainly, whatever she does, she may be depended upon to do gracefully, graciously, and with intelligence. In adddition to his marker program, by the way, Paul Andrews is also concerned with having written sooner or later, a human, vivid, but nonetheless factual history of the oil business with particular reference to the field techniques and tools, and to stimulate others to the preservation of the California petroleum story so that future generations may cherish the system on which this amazing enterprise was built.

Another worthy enterprise that is under the current jurisdiction of M. O. Johnston, is the administration of a Memorial Fund. This was begun by the late Bill McLaine and is very simple in form. It is merely a fund to which members or anyone, indeed, may make donations in memory of deceased friends instead of sending flowers to the funerals. This money is set aside in a separate account, is employed for the exclusive purpose of furnishing financial aid to needy oil men, and since its inception has been well received both inside and outside of the organization.

It would hardly be fair to discuss Petroleum Production Pioneers without citing the part that has been played by the junior workers. When the first barbecue was held back in 1944, George Trembley recruited a battery of activating aqua dispensers who have since become a real institution. They originally used to garb themselves in typical 1890 costumes with heavy black mustaches and hair parted in the middle—all that is but Ted Forsythe whose hair was parted everywhere. These lads helped no end to build PPP to its present substantial dimensions by adding color to the already mighty colorful gatherings. A few years ago, George gave up the job of controlling the jigger jugglers and Hudson Drake, one of the originals, assumed the reins. Hud has carried on in traditional style, has also done an elegant job, and is now just as famous as his famous predecessor.

To such people as Fritz Huntsinger, Bill Butler, Charlie Reichert, Tal Ledbetter, Sam Kelly, and many more like them, PPP is also indebted for their support and efforts over the years. Then, there is Joe Siegel who has been membership chairman since the year one and has helped in no inconsequential way to build up the roster to its present status. In actuality, however, one of the main virtues of the whole organization is that it provides opportunity for association between the pioneers of the industry and the men who are now active, and it is a heart warming experience to note how fully this opportunity is appreciated.

The juniors perform their function as hosts admirably and with apparent enjoyment and the whole process works out very nicely for all concerned. We can't emphasize too strongly here, however, that there are many who should be mentioned as being responsible for outstanding contributions to the building of Petroleum Production Pioneers which definitely now holds high rank in the list of industry associations, but space is limited, the old memory isn't so sharp as it used to be, and a nagging deadline won't permit the necessary research to do a decent job. In conclusion, we should like to say that we have personally enjoyed every minute of the ten years during which we have been privileged to act as secretary. It has paid off in friendships that we shall treasure for all the years that remain.

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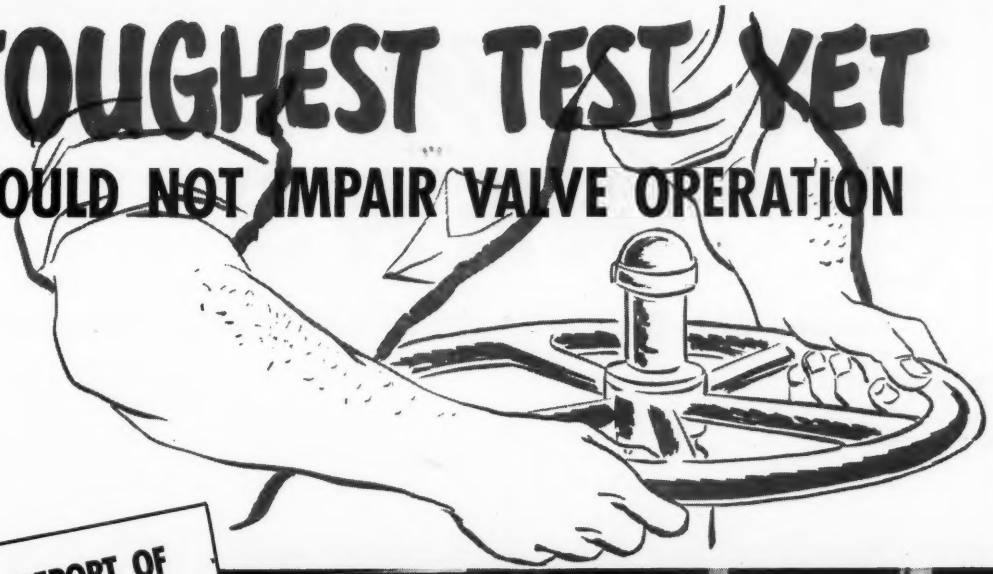

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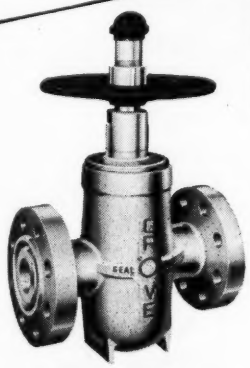

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Rocky Mountain NEWS

Colorado—Idaho—Montana—New Mexico—Utah—Wyoming—Western Canada

Western Canada

British American Oil Producing Co. has brought in the largest producing well in Manitoba, the British American-Union Grose 527. The well, which flowed at an initial rate of over 100 barrels an hour, is located in the Roselea field near Virden. It is the third producer which British American has drilled in the area, and the company is following it up with a fourth well now being drilled. On a 12-hour test, Grose 527 flowed 1251 barrels of 34.5 gravity oil through one-half inch choke.

The Phillips-Husky Glidden No. 1, which recovered gas at an estimated 4,000,000 cubic feet per day in the Viking formation, will test the lower Cretaceous and Banff zones before completion. The well is a joint venture of Husky Oil and Refining Ltd. and Phillips Petroleum Co. The well is in 1sd 7 of 14-27-24w3 and is in the Kindersley area of Saskatchewan. The gas recovery was from the interval 2268-80 feet. There was some oil showing cores below the level.

Husky Oil and Refining will drill the Husky-Gulf-Canadian Superior North Stettler No. 1 in the North Stettler area of Alberta. The well, six miles north of the Stettler pool, will be a test of the D3 Devonian. It is in 1sd 14 of 28-39-20w4.

Imperial Oil and Canadian Superior of California have found both oil and gas in commercial quantities in their Buck Creek 14-29 nearly 60 miles southwest of Edmonton. The gas recovery, at a rate of over 5,000,000 cubic feet per day, was from the Belly River sand at the interval 2871-2941 feet. Oil recovery was 930 feet of 39 degree gravity from the interval 3580-3605 feet. Operator planned to continue to the Devonian.

In a two-day test recently 120,000 barrels of crude oil per day was sent through the Trans Mountain pipeline extending from Edmonton to near Vancouver, B.C. Previously

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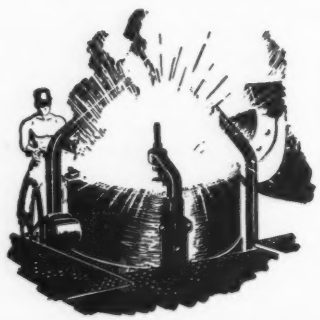

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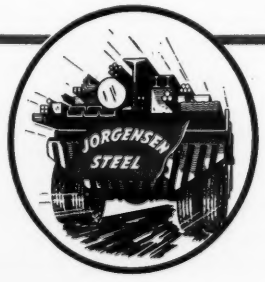

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the line had been handling from 35,000 to 50,000 barrels per day. Depending on west coast markets, the average run is expected to be around 50,000 barrels per day. The test run was near capacity under present facilities.

Wyoming

Trigood Oil Co. has added a new horizon to Wyoming production at No. 2 Unit, c sw ne 33-53n-70w, Mitchell Creek, Campbell County, where eight to ten barrels of clean 22 gravity oil was swabbed per hour from the interval 7036-46 in the Minnelusa.

Coupled with the release of an indicative DST at Union Oil Co. of California's No. 1 Powell, Unit, c se se 29-40n-73 in north central Converse County, the Trigood well is a substantial boost to the long held expectations of the oil potential in the center of the Powder River Basin. The Trigood discovery throws production well out into the Basin from the northeastern flank. If the Union Powell Unit well is completed as a producer, it will signal a big extension of production into the center from the southern flank.

The Trigood No. 2 was taken to 8185 feet in the Madison and was plugged back to 7650 for completion in the Minnelusa which was topped at 7644. The well is the second which Trigood has drilled on this Shell Oil Co. farmout. The No. 1 drilled, one mile southwest of the No. 2 producer, was dry. Trigood has not yet announced a confirmation test.

Union's Powell Unit No. 1, an apparent discovery in the Sussex where a DST recovered gas at the daily rate of 1,150,000 cubic feet of gas, is now drilling below 10,410 feet. The well is a scheduled Frontier test to 11,500 feet. In Fremont County True and Brown, Casper, Wyoming, operators are getting ready for production at the 9-1 Tribal, se sw ne 13-2n-3w (WRM), Northwest Winkleman Dome, where casing has been set at 5620. The well will be acidized this week. The wildcat is located on a 160-acre farmout from Phillips Petroleum. It was slated as a 6,000 foot Tensleep test. The drill was sent to the objective formation which was dry. It was plugged back to the Enlar for production. The tract joins Stanolind Oil and Gas production at Winkleman Dome but is a separate structure and reports indicate that the producing zone is twice the thickness of adjoining field.

Five wildcats have been abandoned in Wyoming. At Alkali Creek Anticline, Big Horn County, Sohio Petroleum has plugged the No. 1 Unit, sw sw nw 33-55n-95w after going to 5090 feet in a Madison test. Sohio has also abandoned a Natrona County wildcat at Reo Creek where the No. 1 Govt. Bacon was abandoned at 3068 feet.

The West Sussex wildcat of Carmack and Crawford has been abandoned. The No. 1 Govt. sw nw nw 30-43n-81w, three miles south of Kaycee, Johnson County, was scheduled to test the Tensleep at 3780 but was abandoned at 3482 with the Tensleep found at 3482.

The Washakie County wildcat of J. Ray McDermott has been plugged at East Wyman Draw where the No. 1 Govt. sw sw ne 31-42n-89w, was dry. Its total depth was 8147.

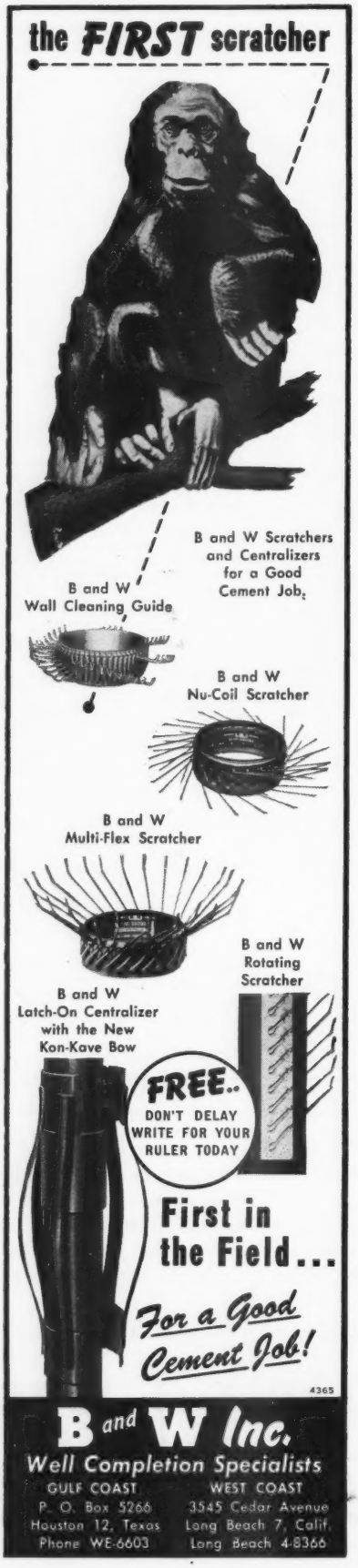
In the Dewey area of southeastern Weston County C. G. Glasscock and the Cosden Petroleum Corp. have given up No. 1 State, se se nw 36-42n-61w, after going to 2700 feet.

In the very active South Clareton field of Weston County the northwestern boundary may have marked out the failure of two producers and one extension. However, lenticular sand conditions make boundary predictions difficult.

Sinclair Oil and Gas Co. are grading location for the No. 1 Kirby Draw, sw se se 27-33n-95w, in a Fremont County test of the Tensleep at 8000 feet.

Montana

Stanolind Oil and Gas has recovered water with only a slight show of oil from the Mission Canyon in the interval 7439-87 at the No. 1-C NPRR, c ne nw 15-9n-58e, North Pennell Creek, Fallon County. The DST recovered 1080 feet of muddy water, 900 feet of oil cut muddy water and 1675 feet of slightly oil cut water with a rainbow of oil. The well is three miles south of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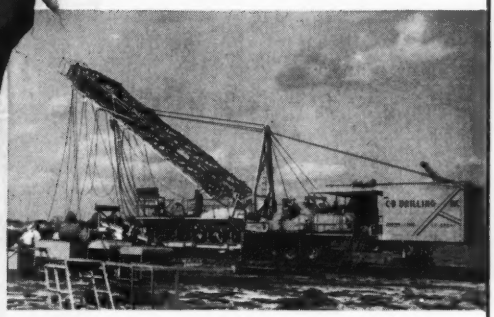
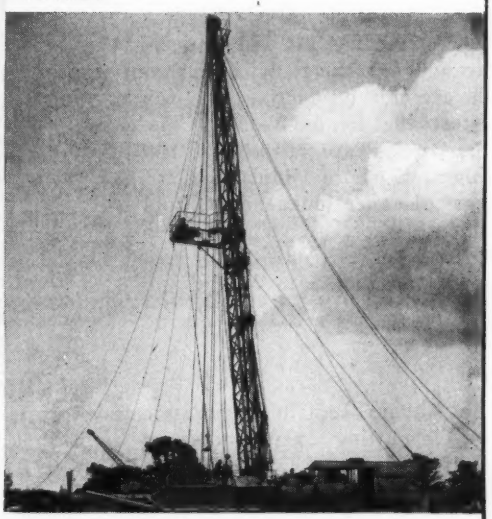
PAGES FROM LEBUS ALBUM OF SATISFIED CUSTOMERS

"OUR LEBUS GROOVING SAVED ENOUGH TO PAY FOR ITSELF MANY TIMES . . ." says Joe Beard, Beard Drilling Co.

Owner Joe Beard keeps an eye on the drum as his driller makes a lift on the blocks. Note how evenly the line lays on this drum due to the progressive spooling effect made possible only from LeBus grooving.



"At first, we snap a line on the drum to raise the mast. This operation takes much less time, by having LeBus Grooving, since we only need a few wraps on the drum."



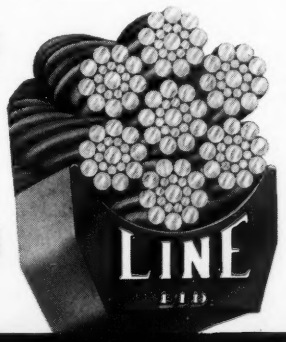
"After the mast is raised, we remove the mast line very quickly and snap on our working line. By having LeBus grooving, which automatically spools the line correctly, the time required for costly hand spooling is eliminated."

EXCERPTS OUT OF LETTER TO LEBUS FROM BEARD DRILLING COMPANY . . .

"Last year, I purchased a New Wilson Giant Rig and Wilson 96-foot Mast, and upon your recommendation, I had LeBus Grooving installed on the hoisting drum while the drawworks was still at the factory.

"At first, I wasn't too sure just how this grooving would be on my rig, since I had planned to use this rig primarily for shallow drilling and workover operations. After many months of experience, I find LeBus Grooving a real asset to our operations. The speed with which we are able to tear down, move and rig up is important, especially when working for major companies. We attain a lot of speed, while rigging up, because of the LeBus grooving. Through this long experience we have also found that only LeBus can offer a true progressive type spooling that will completely eliminate the slipping and cutting-in of wire line, thereby making this type of spooling a real safety factor.

"Our own facts prove to us that the time and money saved, with LeBus Grooving, has paid for the grooving many times in the past ten months.



"The companies for whom we have been operating, compliment us on our speed in setting up and time saved. That is one reason I wanted to write you and say that we feel LeBus Grooving is a real help to us and is one of the big reasons for our receiving these compliments. Thanks for recommending LeBus Grooving to us."

Signed,
Joe Beard,
Beard Drilling Co

LEBUS INTERNATIONAL ENGINEERS LIMITED

Executive Offices: 305 Wichita Natl. Bank Bldg., WICHITA FALLS, TEXAS
SALES, SERVICE Control and Warehouse Stock: LONGVIEW, TEXAS

COMPLETE SALES AND SERVICE LOCATED IN EVERY OIL CENTER

Shell's Cabin Creek discovery, No. 22-33 Unit, nw se nw 33-10n-58e, but is 300 feet lower structurally. Although Mission Canyon shows were found in the Cabin Creek discovery the well was completed in the Silurian-Ordovician.

Atlantic Refining Co. is locating a 5700 foot Tensleep test in the Northwest Frannie area, Carbon County. The No. 1 Proebstal, c ne nw 25-9s-24e, is three and one half miles northwest of the Frannie field.

Socony-Vacuum Pegasus Division is moving material for Winnipeg test in McCone County. The company will drill the No. F-11-20-P Waller, c nw nw 20-21n-46e to a scheduled depth of 9500 ft. The well is 13 miles southeast of the Southwest Richey field.

Thirteen miles west of the Cedar Creek Anticline in an area of no previous drilling F. R. Anderson is drilling below 4027 at the Hay Creek wildcat No. 1 Bohle, c ne ne 20-7n-57e, Fallon County. The test is scheduled to 9450.

Colorado

Ohio Oil Co. will deepen a 1944 failure in Weld County. The No. 1 Nordloh, se se se 20-5n-63w was drilled to 7985 feet. It will be deepened about 1000 feet. If the Lyons sands are not productive the well will test the Pennsylvanian. The Lyons sand is expected at 8300 feet in this area where Ohio and C. C. Thomas, Denver independent, hold considerable acreage. The location is 15 to 25 miles south of successful Lyons production in Weld County.

Utah

The Navajo Indian Reservation agency is putting 250,000 acres up for lease in an area where leasing last spring brought premiums of $130 per acre. The Indian land is in San Juan County, southeastern Utah and northwestern New Mexico. The sale will offer lands in Utah west of the Boundary Butteex area. Recent apparent successes in southeastern Utah are expected to encourage sale interest. The acreage lies in San Juan, Sandoval and McKinley counties New Mexico and San Juan County, Utah. Bids will be opened December 21 at the agency, Window Rock, Arizona. Details may be secured from the agency office.

Carter Oil Co. will test the Devonian six miles west of an apparent upper Paradox discovery by Three States Natural Gas Co. at No. 1 Utah-State, c se sw 32-39s-23e. Carter has staked location for the No. 1 Bluff Bench Unit, c nw sw 29-39s-22e in San Juan County. The wildcat is scheduled to top the Devonian at 8500 feet.

New Mexico

Stanolind Oil and Gas Co. have reported a flow of 396,000,000 cubic feet per day from the Pictured Rocks formation in the northernmost success in the trend to date. The wildcat is No. 2 San Juan Unit, sw sw sw 35-32n-5w, San Juan County. It is northwest of Blanco field production and six miles south of the Colorado line. Exploratory work in ranges 4 and 5 west has been heavy.

Magnolia Petroleum at No. 1 Hutchinson-Federal, c nw sw 14-19n-3w, has obtained the only production to date in Sandoval County. The wildcat, 60 miles northwest of Albuquerque, has a pump gauge of 79 barrels of 33 gravity oil per day. The production is from the Entrada in the interval 5210-15. The wildcat was taken to 9684 but plugged back to 5215 for completion. The Entrada top was 5215.

North Dakota

A $12,500,000 natural gas pipeline will move natural gas from the Signal Oil and Gas Co. plant near Tioga to cities of eastern North Dakota. The North Dakota Natural Gas Co., an independent with head offices in St. Paul, Minn., has announced plans for the line on which construction will begin next spring. It will be completed during the summer. Gas will be furnished the Signal plant by Amerada. The line will furnish gas to such North Dakota cities as Fargo and Grand Forks. Initial capacity will be 3,000,000 cubic feet per day with provision for an ultimate capacity of 6,000,000 cubic feet per day.

Used as check valves, Kennametal Balls and Seats resist shock, sand-cutting, corrosion, and pitting over 20 times longer than alloy steel. They provide unexcelled service in sour crudes, hydrogen sulfide gases, and flour sand cut fluids. Costly string pulls are less frequent, production volume is greater.

Kennametal Balls and Seats (either flat or rib type) are sold by your regular supplier, in A.P.I. specifications. Kennametal Inc., Latrobe, Pa.

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LIGHT-WEIGHT
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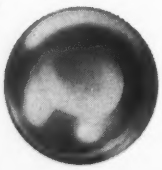
Made of corrosion-resistant titanium carbide, ⅓ lighter than steel. Minimizes down-well check valve trouble caused by ball flutter, cage wear, and fluid pounding.



KENNAMETAL
PUTS AN END TO DOWN THE HOLE CHECK VALVE TROUBLE

PROTECTION AGAINST CORROSION

KONTOL PROTECTS SUCKER RODS, TUBING, CASING, GATHERING LINES, PRODUCTS LINES AND TANKAGE

Kontol is an organic corrosion preventive which affords protection by forming a tough protective film over metal surfaces. Its protective influence is persistent and continuing, so that its benefits are noted in surface, as well as in the sub-surface, equipment.

Kontol protects against the various forms of corrosive attack, including hydrogen embrittlement and hydrogen blistering. Useful in protecting all types of primary production equipment, it also has been found useful in secondary recovery water-flooding, where its bactericidal properties are an added advantage. In addition to these usages, Kontol has also proved effective in preventing corrosion in natural gasoline plants.

For complete information, ask your Tretolite field engineer, or write to:

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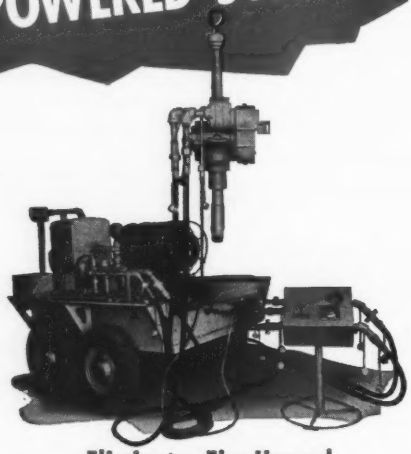
PARAFFIN REMOVING • WATER DE-OILING

The Easiest and Quickest Powered Swivel to Use

THE BOWEN POWERED SWIVEL

Complete trailer mounting provides ease of getting the Swivel to the job. The use of self-sealing couplings insures ease of setting up Swivel. Direction of rotation, speed and torque are easily controlled by the operator from the control box. Swiveling hose connection eliminates any possibility of contaminating the Swivel because it is a separate, easily installed unit located below the rotating unit.



Eliminates Fire Hazard

Locating the trailer-mounted prime mover unit, which is equipped with spark-proof ignition and exhaust, at a safe distance from the well prevents all danger of fire hazard.

BOWEN POWERED SWIVELS

are used for all types of light and medium rotary operations because they eliminate the necessity of moving in Kellys, rotary tables or other heavy equipment for light or medium short-time rotary work and because they eliminate the inefficiency and even danger of rotating strings by hand. Bowen Powered Swivels are sensitive enough for small torque operations like cutting with macaroni or sucker rods, yet sufficiently rugged to do clean-out and milling jobs. They are available in two types for light-duty operations and medium-duty rotary work.

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Australia's First Oil Production Established

R. G. Follis, Standard Oil Company of California board chairman, probably made the most important announcement of his eventful career when he told the world the Australian Continent had gathered in its first oil strike.

The discovery was scored by West Australian Petroleum Proprietary, Ltd., in which the California Texas Corporation or Caltex as popularly known, has an 80 per cent interest and the Australian organization, Ampol, a 20 per cent interest. Standard of California and The Texas Company each has a 50 per cent interest in California Texas Corporation.

Located about 680 miles north of Perth, the well is inland from Exmouth Gulf in a wild and isolated section of the west coast of Australia. Aptly named Rough Range No. 1, the well marks the first test of more than 300,000 square miles held under long-term concession from the state of Western Australia.

A test of the discovery oil sand zone from 3605 to 3620 feet gave up a waxy, high gravity crude oil, Mr. Follis said. The formation was under test for 25 hours and during that time flowed 23 barrels of oil an hour through a quarter-inch bottom-hole orifice.

T. L. Lenzen, Standard vice president, disclosed that his company has ear-marked no less than $10,000,000 as an opening shot in development of the new field.

The drill site for the discovery well was selected after two years or more extensive geologic studies and geophysical surveys.

In accordance with original plans for deep testing, drilling has been resumed in the well, which is equipped to go to 12,000 feet.

Caltex, owner of widespread marketing outlets and refining plants over the Eastern Hemisphere, now has under construction in Australia a 22,000-barrel refinery not far from Sydney.

The famed Brown Drilling Company of Long Beach, headed by genial Ned Brown, won new laurels in guiding the well to its evident successful destiny on contract. Al Dysart is superintendent of operations, and Jack Rice, engineer. Brown has 12 other members of the company on the exploratory work, in addition to Australian personnel.

Frank A. Morgan, Richfield Oil Corporation vice president, who toured Australia some five years ago, analyzed the strike as the most significant and far-reaching development in oil since the initial United States discovery by Colonel Edwin L. Drake in 1859 at Titusville, Pa. He pointed out that the geological structure of the possible oil-bearing ground at Exmouth Gulf is as large as any in this country.

Consumptive demand in Australia at present is around 100,000 barrels of petroleum products a day, all of which must be imported. Importations come largely from the Persian Gulf and Indonesia.

Exploratory work of Australia's Department of National Development was the factor primarily leading to the leasing of the vast spread of land by Caltex and Ampol. These earlier activities evidently moved Caltex to return to Australia in a bid for opening the first discovery in the Commonwealth.

Personalities IN THE NEWS

Chappellet Heads Oil & Gas Assn.

Appointment of Felix Chappellet, General Petroleum Corporation executive, as secretary and acting general manager of the Western Oil and Gas Association, was announced by L. L. Aubert, president. Associated with General Petroleum for 30 years, Chappellet, who is a prominent industry and civic figure, has worked in the land, production, and marketing departments.

Felix Chappellet

He replaces John M. Peirce, who by appointment of Governor Goodwin Knight, became director of finance of the State of California.

Chappellet is on the executive committee and a director of the Downtown Business Men's Association, director and vice president of the American Library of Information, vice chairman of the Los Angeles Chamber of Commerce Metropolitan Traffic and Transit Committee, and a member of the Advisory Council of the University of California Institute of Traffic and Transportation Engineering.

Chappellet, a leading member of state and local chamber highway bodies and other civic road improvement groups, is an expert on modern highway development and finance.

He resides with his family at 4105 Dover Road, Flintridge. Chappellet is married and has two daughters.

McOmie Heads Shell Refinery in Washington

F. S. Clulow, vice president, manufacturing, for the Shell Oil Company, recently announced the appointment of R. W. McOmie as manager of Shell's new refinery at Anacortes, Wash., on which construction work has already been started.

Shell announced plans for the construction of a new refinery in the Northwest earlier this year. Selecting Anacortes as the site, the company stated it would construct one of the most modern plants of its kind in the nation.

R. W. McOmie

McOmie, presently manager of Shell's refinery at Wilmington, Calif., will devote his full time to coordination of various activities in connection with the project, and the development and training of the operating organization during the construction period, Clulow stated.

Born in Sugar City, Idaho, McOmie is a graduate of Stanford University, being awarded a bachelors degree in chemistry there in 1926. He started his career with Shell the following year as a chemist at the company's Martinez, Calif., refinery. Following a series of various assignments in the Martinez and Wilmington plants, he was named assistant manager at Martinez, in 1942. The following year he returned to Wilmington where in 1945 he was appointed manager.

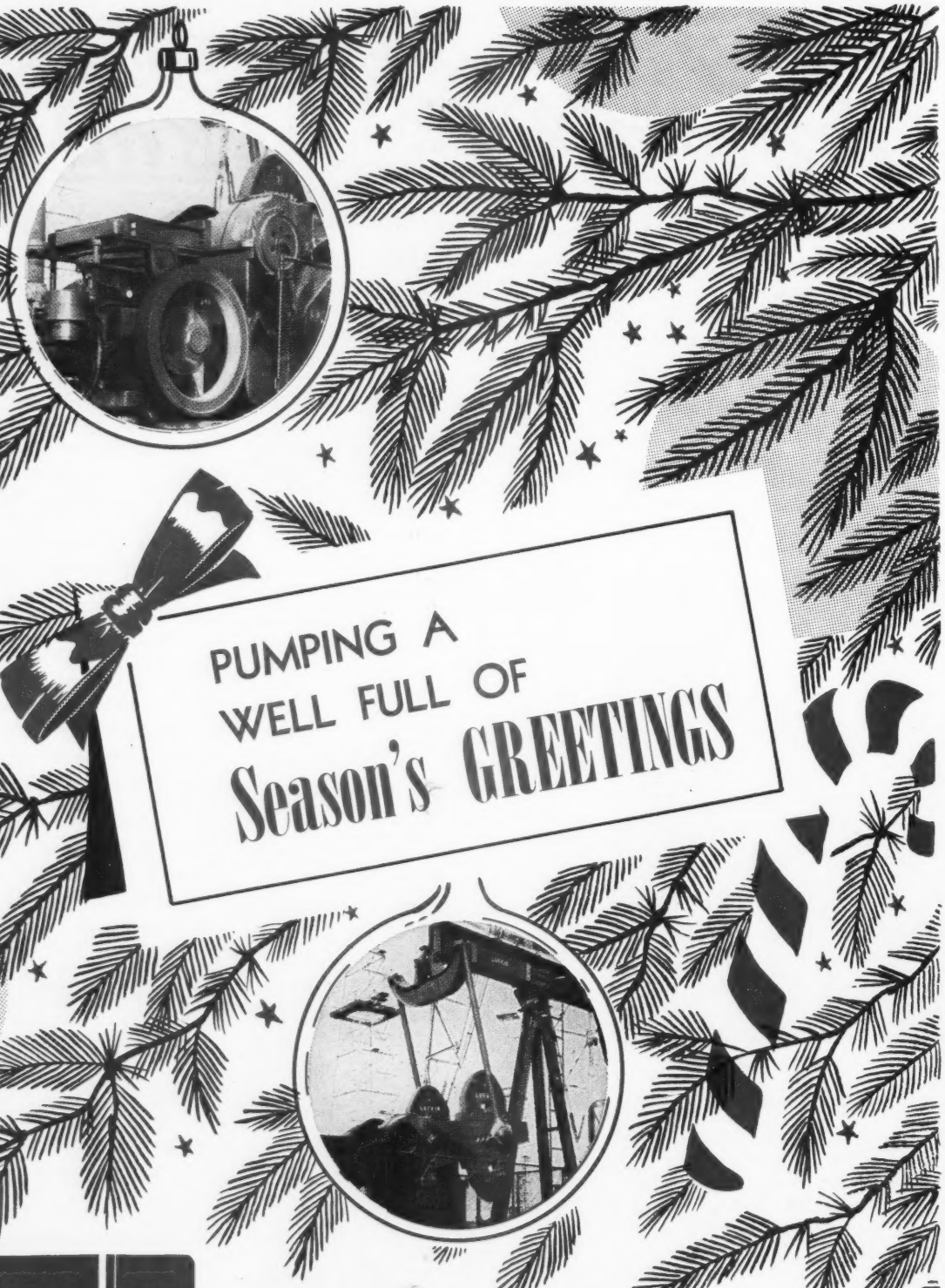
According to the announcement, McOmie will be replaced as manager of the Wilmington refinery by P. J. Merkus of New York. The changes will become effective on or about January 1.

Merkus has been assistant to the vice president, manufacturing, with offices in New York for the past several years and has handled general administration work related to staff development and organization.

San Joaquin A.P.I. Elects New Officers

E. A. Armbruster of Shell Oil Company was elected chairman of the San Joaquin Valley Chapter of the American Petroleum Institute at a recent meeting in the Petroleum Club at Taft.

Other new officers include Hugh C. Mays of Crescent Petroleum Company, first vice-chairman; J. J. Oliphant of General Petroleum Corporation, second vice-chairman; and Bob Torrey of Southern California Gas Co., Secretary. Glenn V. Kersten



Lufkin

LUFKIN FOUNDRY & MACHINE COMPANY

5959 SOUTH ALAMEDA STREET
LOS ANGELES 1, CALIFORNIA

of Western Gulf Oil Company is past chairman.

Members named to the advisory board included W. S. Comstock, consultant; Mort D'Evelyn, M J M & M Oil Company; John Fraser, Union Oil Company of California; H. V. Cowger, Murray Putnam, and L. L. Henning, all of Standard Oil Company of California; B. A. Grover, Western Gulf Oil Company; Jack Rogers, Honolulu Oil Corporation; Jack Shepherd, Humble Oil & Refining Company; and W. Stadtmiller, Monterey Oil Company.

O. A. Cavins, retired, formerly with Standard Oil Company, was named an honorary life member of the advisory board.

Glen Wooldridge of Grants Pass, Oregon, and M. M. Kinley of Los Angeles and Houston, Texas, were featured on the program. Wooldridge showed a film dealing with a boat trip which he made up the Rogue River from Gold Beach to Grants Pass, Oregon.

Myron Kinley showed films of some of the blowouts which he has helped to bring under control, including runaway wells in Canada, the Gulf Coast, and Iran.

H. F. Donley of Axelson Manufacturing Company was in charge of the barbecue steak dinner which was served to some 300 oil men.

Executive Advances Made At A. O. Smith Corp.

Fred Mackey, who now holds the title of vice president in charge of manufacturing for the A. O. Smith Corp., has returned to Milwaukee headquarters to take larger responsibilities in the administering of company-wide manufacturing problems.

Mr. Mackey, who came to A. O. Smith about a year ago from the Allis-Chalmers Mfg. Co., has been directing defense goods production principally since that time. He has been located at the Landing Gear Division at Toledo, O., and has divided his time between that activity and the Airframe Division at Rochester, N. Y.

F. S. Cornell, Vice President and General Manager of A. O. Smith, said Mr. Mackey will become a member of the central staff and report directly to him.

FRED MACKEY

At the same time it was announced that Arnold J. Ristow, who has been managing the Rochester Plant, also returns to Milwaukee to join Mr. Mackey's staff.

Succeeding Mr. Ristow as works manager is Willard L. France, aeronautical production engineer, who has been in close contact with the Rochester operation as a consultant in recent months.

New officers of the San Joaquin Valley Chapter of the API are (seated, left to right) E. A. Armbruster, Shell Oil Co., chairman; Glenn V. Kersten, Western Gulf Oil Co., past chairman; (standing, left to right) Hugh Mays, Crescent Petroleum Co., first vice-chairman; J. J. Oliphant, General Petroleum Corp., second vice-chairman; Bob Torrey, Southern California Gas Co., secretary.

Ted Jones, head of Ted Jones Drilling Co., Inc., of Los Angeles, has named his forthcoming test well in Pima County, Arizona, Juanita No. 1, for his daughter. Location, in the northwest quarter of Section 34-18s-18e, was made by Douglas Marcell, veteran Los Angeles geologist and oil producer.

A. C. (Ace) Edington, 63, who for many years was an officer of the former Edington refinery at Long Beach, died recently in Los Angeles. A candidate for Lieutenant Governor of California in the middle 1930s, Mr. Edington at the time of his passing owned the Village Auto Park at Westwood. His brother, oil man C. B. Edington, was president of the refining company. Another brother, the late Harry Edington, was long a leading motion picture agent.

Le Roi Engine Sales Appointed by Le Roi Co.

Le Roi Company announces the appointment of Le Roi Engine Sales as exclusive oil field distributors in Southern California.

Le Roi Engine Sales, located at 2102 East 28th St., Long Beach 6, is headed up by Russell F. Zingg and Otis H. Crabtree. Russ Zingg, who formerly owned the Oil Field Power Co., has been actively engaged in the oil field engine business since 1937.

Russell F. Zingg

Otis Crabtree has been an independent operator and producer in the Los Angeles Basin area for the past 12 years and has accumulated an intimate understanding of oil well drilling and pumping engine problems.

Otis Crabtree

A new building at the above location has been erected to house the offices, servicing, parts and warehousing facilities. The engine service department is supervised by Dan Baine and the parts department is in charge of Harold Crowley. Both Dan and Harold are experienced in Le Roi Engine servicing and parts work.

Hill & Christopher Join SCAAA

Acceptance of the Hill & Christopher Advertising firm, 1709 West 8th Street as members of the Southern California Advertising Agencies Association was announced today by Alfred A. Atherton, president.

James W. Christopher and Herbert E. Hill are partners in the agency. This brings the total membership of the SCAAA to well over 70 agencies, one of the fastest growing organizations of its kind in the West, Atherton said.

Hill & Christopher create the advertising for Halliburton Oil Well Cementing Company. The agency lists eleven other accounts, notably Kraloy Plastic Pipe, Stag Beer, and Halliburton Aluminum Luggage. Herb Hill designs and completes the art and Jim Christopher writes the copy. The agency has six employees.

Peter H. Simon Named Controller for Security Engineering Division, Dresser Operations, Inc.

According to an announcement by Otto Hammer, Security's president, Peter H. Simon has been appointed Division Controller.

Mr. Simon, who joined Security in March of 1953, brings a wealth of knowledge and practical experience to his new post. He formerly served as Assistant Controller with the Wayne Pump Company and prior to that time, in various supervisory and staff capacities with the Ford Motor Company, at Dearborn, and Columbia Steel in San Francisco.

In his position with Security, Simon directs and is responsible for the finance, and related controls of the Division's widespread operations throughout the major oil producing areas of the United States and Canada.

Berger Named Industrial Relations Mgr. of Lane-Wells

In line with plans to improve and extend the scope of its employee welfare program in its 85 branches in the United States, Venezuela and Canada, Lane-Wells Company has appointed Jesse T. Berger, one of the best known industrial relations executives in the West, as manager of industrial relations, according to an announcement by Rodney S. Durkee, president

He comes to his new post with a broad background of employee welfare and personnel experience in key positions. Until recently, he was director of industrial relations for Pacific Airmotive Corporation, representing 3500 employees in three plants and three branch offices. Previously, he had the same post with Stone & Smith, Inc., metal and electronics manufacturer of Vernon, California.

For 2½ years he was assistant chief of the industrial relations division of the San Francisco Port Embarkation working with 19,000 civilian employees. He is a graduate of the U.S. Army Transportation Officers Candidate School and served the San Francisco Port of Embarkation first as a military officer, then as a civilian. Previously, he had ten years experience with Standard Oil Company of California.

Eleanor Balbach, Macrate Oil Company, has been elected president of the Long Beach Desk & Derrick Club for the coming year. Helping her lead the organization through 1954 activities will be Jean Kasper, 1st Vice President, Freda Kirk, 2nd Vice President, Ada Kennedy, Treasurer, Muriel Carnahan, Recording Secretary, Dorothy Woodruff, Corresponding Secretary, Mildred Schafer and Myrtle Maier, Directors.

WOW! WHAT A LINER THAT WOULD MAKE – ESPECIALLY IF IT WAS PERFORATED BY THE OIL TOOL CORPORATION OF LONG BEACH AND VENTURA*

*If you've got any pipe that needs perforating, threading or straightening, call Long Beach 4-8181 or Miller 3-8302 (Ventura).

Clifford P. Blackburn, pictured above, former news reporter and photographer, has been named Advertising Assistant for Baroid Sales Division.

Mr. Blackburn was graduated in June, 1949, from the University of Missouri School of Journalism, where he majored in news and feature writing. He worked several years on the staff of the Lubbock, Texas, Morning Avalanche and on newspapers in Houston and California.

Mr. Blackburn will assist in the editing and designing of all Baroid Sales Division advertising and sales promotion items.

Members of the Western Oil and Gas Association, assembled for a dinner meeting in Los Angeles, heard briefly from General Ernest O. Thompson, Texas Railroad Commission chairman at Austin. He stressed that his intimate observations for more than 21 years as administrator of oil and gas conservation, laws and regulations led to the belief that the good little operator is equal to and can work with equal success right beside the biggest good man or company in the petroleum producing business if given a sound state oil and gas conservation law, honestly and fairly discharged.

The Union Oil Company family in the Bakersfield area turned in a 500 per cent better record in the United Fund campaign than in any previous year. Prominent in the excellent drive for funds were John R. Fraser, Union Oil's San Joaquin Valley division superintendent and L. J. Wyatt, chairman of the company drive.

Jorgensen Names Officers

Expansion of the corporate organization of the Earle M. Jorgensen Co. was announced, effective December 1, 1953, by Earle Jorgensen, president.

Elwood M. Smith has been appointed executive vice president. Smith's previous position with the firm was secretary-treasurer and comptroller, in which capacity he has served since 1930.

Named senior vice president is Charles Schriber, who has been vice president and manager of sales at the firm's Los Angeles plant since 1950. He will continue to head Los Angeles sales.

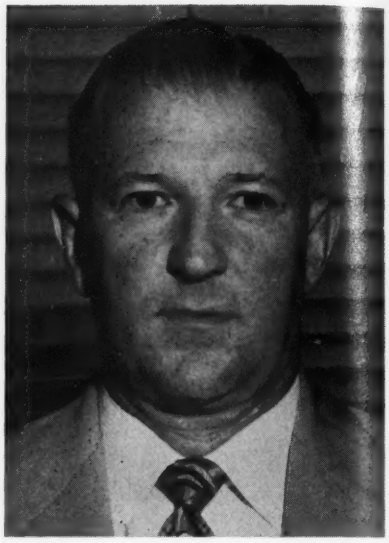
Office of treasurer has been established as a separate position and will be filled by George A. Day, who will handle finances and credits. Day has previously held positions of credit manager in the company's Los Angeles and Dallas plants, and assistant credit manager in its Oakland plant.

Named secretary is John F. Watkins, who has been assistant secretary since 1951. Watkins will be responsible for personnel, procedures, and administrative matters.

New comptroller is S. Monte Robinson, CPA, who has been assistant comptroller since 1952 and was previously affiliated with Price Waterhouse & Co.

The Earle M. Jorgensen Co. functions as a distributor of steel and aluminum products and operates a Forge Division which produces a wide variety of open and closed die forgings. Distribution plants are located in Los Angeles, Oakland, Houston, Dallas, and Tulsa.

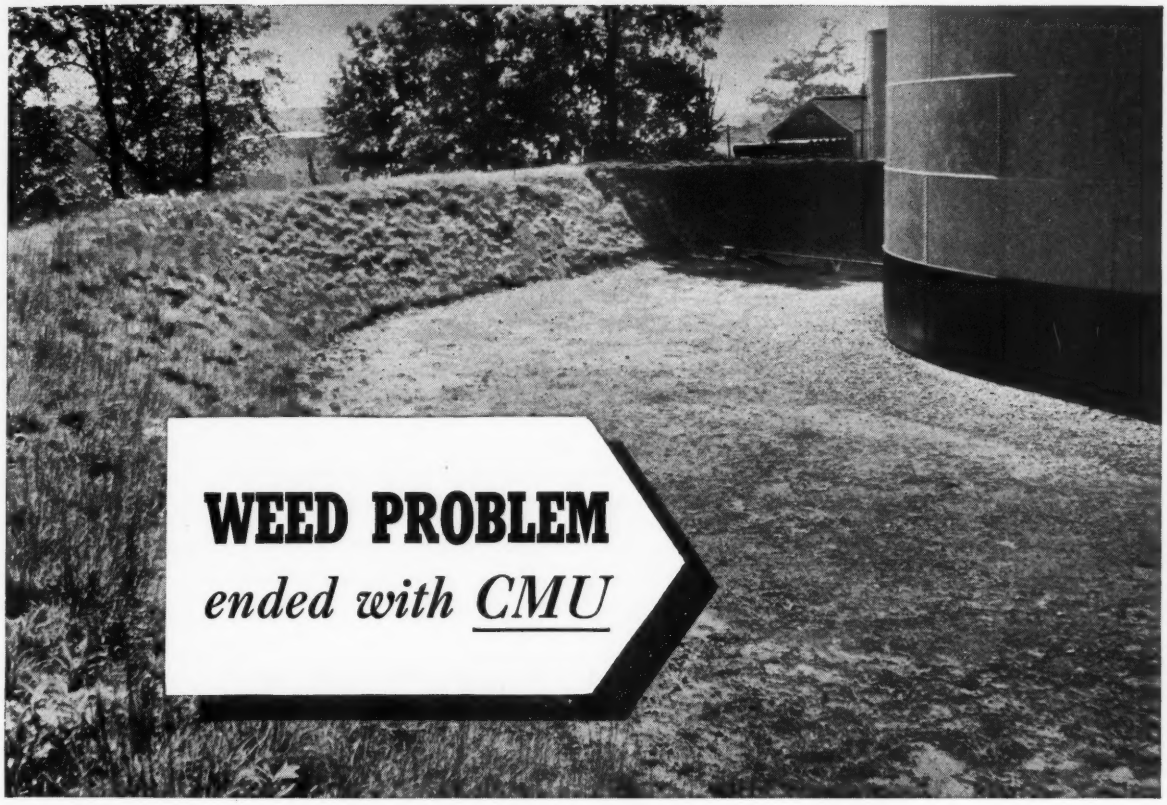
Hundreds of friends were on hand at a dinner in the Petroleum Club at Taft honoring Frank R. Tolf, Standard Oil Company maintenance superintendent for the north production division, who was retiring after 36 years with California's largest oil organization. Those in attendance at the dinner, included Al Tietze, Len Little, Omar Cavins, Wendell Erdley, Chester Gibbs and Frank and Colonel E. L. Hubbard. Also present was Charles Scharpenberg who employed Tolf for the company. The retiring executive also was honored at another party, sponsored by ladies of the West Side.



R. E. Souther, Baroid Sales Division employee for 14 years, was recently appointed manager of the new Equipment Department. This new department is a consolidation of the Transportation Department, Testing Equipment Department, and the Well Logging Shop.

Mr. Souther was chief engineer in the Well Logging Department before consolidation. He received his degree in petroleum engineering from the University of Texas in 1939.

Harold L. Sanders, Union Oil Company vice president, discussed "Public Relations—A Universal Catalyst" at the recent meeting of the Desk and Derrick Club in Bakersfield. Also on the program was a play, "Wump's 51st," aptly describing worries and frustrations of many an oil operator and particularly Mr. Wump, who plumbed the depths 50 times in a row with never a smell of oil. Those in the play, included Marjorie McCart, Mildred Wiebe, Myrtle Fox, Sharon Leifer, Jeanette Francesconi and Ella Surgener. Mr. Victor Church, director, was assisted by Pauline Montgomery, Dixie Howard, Arlis Wessell, Frances Hurt, Geneva Rottier, Linda Gloeckler and Kelley Brennan. In charge of programs were Katherine Rister, Joan Scofield and Monteen Kerker. Table decorations were in the hands of Betty Stanley and Marilyn Roskam. Erma Colvin and Marget Garrigan were in charge of invitations.



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Field Development

Coles Levee Claims Deepest Oil Producer

Richfield Oil Corporation's completion of the deepest producer in the world from a new pool of consequential importance at North Coles Levee will surely influence new drilling. The well, CLA No. 67-29 on Section 29-30s-25e, came in flowing 357 barrels of 43.2 gravity crude oil gross, cutting 66 per cent oil base mud. Net output was 119 barrels through an 18/64-inch bean, with 1,550 pounds of pressure on the tubing. Open was 385 feet of Eocene formation in the interval of 17,500 to bottom at 17,895 feet. No water showed in the flow. The Coles Levee field has been a valuable producer from the relatively shallow zones and it is a structure of large proportions. It naturally follows that the deeper zone may also measure extensively. Most significant is the fact that if Richfield has tapped the Eocene at this location, it marks the only production from this formation between McKittrick and Wheeler Ridge. The previous world's record was held by Shell Oil Company's State Unit No. 2, bottomed at 18,568 feet and completed in the interval of 17,200-17,306 feet earlier this year in the Weeks Island field, 15 miles south of New Iberia, La.

California, which makes a habit of attaining firsts in many lines of endeavor, also boasts the deepest hole in the world in the Paloma field. There Ohio Oil Company's KCL-A No. 72 on Section 4-32s-26e is down 21,482 feet and in the throes of a fishing job.

Since recovery of 1264 feet of oil and gas cut mud and clean oil on formation test of the interval of 4554-4592 feet, Bankline Oil Company's Plank Comm. No. 28-29 on Section 29-29s-27e in the Greenacres area of Kern County to last reported depth near 6000 feet evidently has encountered no additional showings. The well is located about one and one-half miles southeast of the C. W. Teater, Operator, Teater-Billington No. 1 on Section 19-29s-27e, and four and one-half miles southwest of Bakersfield. The Teater well, meantime, continues to pump at a gross rate of more than 200 barrels of 19.8 gravity oil a day through a 14/64-inch choke from Basal Etchegoin sand, with cut giving signs of progressive diminution. John Green and Don Lord's Atlas Oil Company holds a 40 per cent interest in the play spreading over 440 acres. The discovery is the culmination of two previous wildcats drilled in the area by Atlas. They were known as Neufeld Comm. No. 1 on Section 19, and Williams Comm. No. 1 on Section 25. Golden Bear Oil Company has leased ground about 1000 feet east of the new discovery.

Zephyr Oil Co.'s Lupe No. 7 in the Wilmington field being put down by Atlantic Oil Co. Left to Right: T. Esser, floorman; Elmer E. Cousins, floorman; M. T. Green, derrickman; L. Raines, driller and H. W. Potter, floorman.

Greenfield Test

On the A. H. Karpe Ranch, south of Greenfield and southeast of Mountain View, an interesting wildcat is set to drill under the banner of Casner & Bentz, drilling contractors, and Edmond Beshara of Texas. Honolulu Oil Corporation also is understood to share interest in the venture. The derrick is on Section 29-31s-28e on ranch land, which before its purchase by the present owner, was held and operated by one of the sons of former President Herbert Hoover. Wildcat operations are not exactly new to the area, but wells in this category have been few and far between. It was recalled that around 1945 Big McKittrick Oil Company tried its luck with a test on Section 27-31s-28e. However, this effort of yesteryear evidently came to naught to a depth approximating 6750 feet.

Kern Front let down the Richard S. Rheem, Operator, Davies No. 1 wildcat on Section 3-28s-27e by showing nothing commercial to 6142 feet, a depth marking abandonment. Over to the south in the Mount Poso area, Edward Nepple's US No. 1 wildcat on Section 10-26s-28e is an abandonment in granite at 1197 feet. The granitic rocks came to light at 1190 feet. Another production failure was Milt Barratt and Ernie Bysshe's Portals No. 74-A on Section 33-29s-29e. The well was

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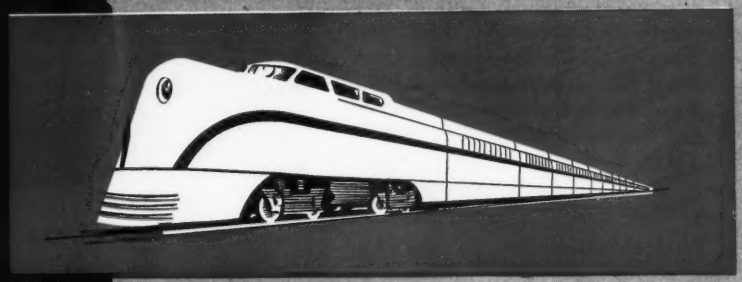

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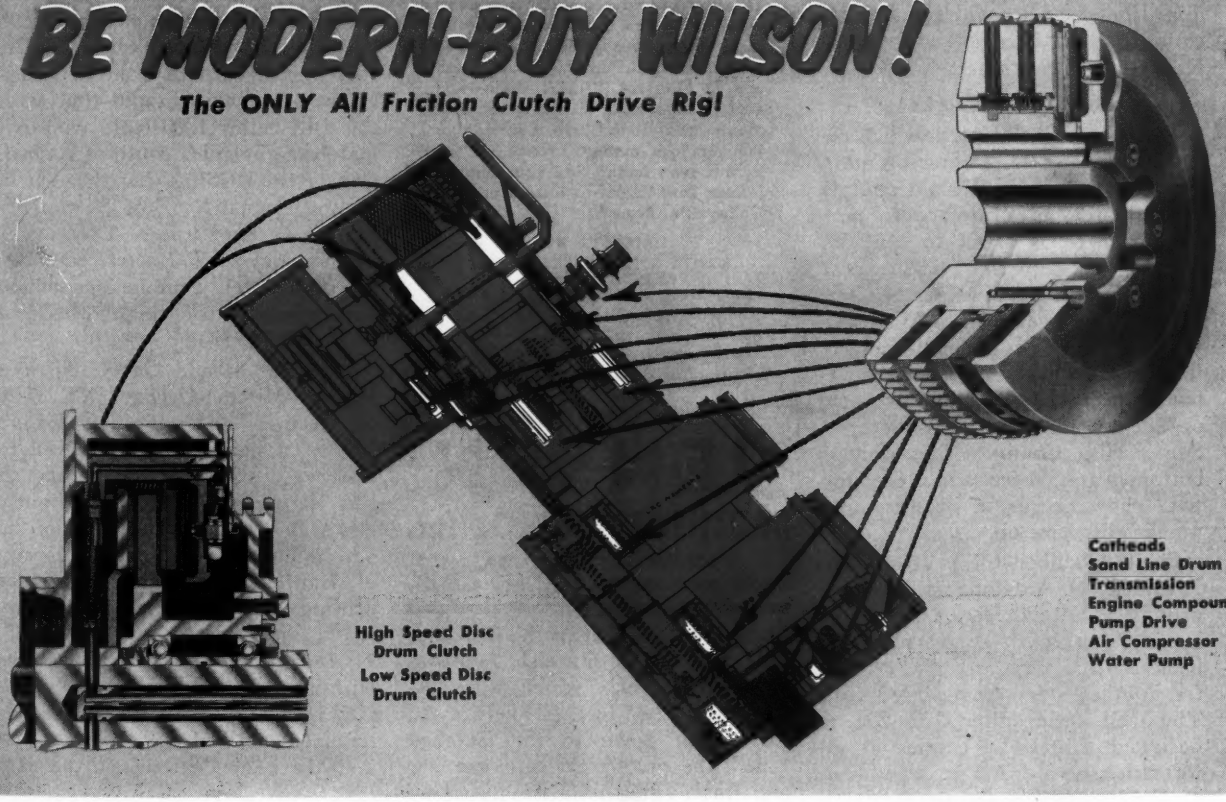

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carried originally to 5005 ft. and subsequently plugged back to 3200 feet for a fresh start for Race Track area production. However, redrilling operations stopped permanently at 4910 feet. In the Northwest Lost Hills area, Universal Consolidated Oil Company called it quits at 4405 feet with its Conoco No. 18-21 test on Section 21-25s-20e. Lady Luck was not in a nodding mood for the C. Ray Robinson, Operator, Ripley No. 41 test on Section 25-11n-23w in the Midway-Santiago area and the project faded into history at 7505 feet.

Wildcat operations in the Ant Hill sector have been initiated by E. A. Parkford of Beverly Hills with his M & T No. 56-12 on Section 12-29s-29e, with Miller & York handling the work as contractors. Location also has been staked for S. P. No. 66-19 on Section 19-29s-30e.

Shafter Try Works

Tide Water Associated, which recently added leases embracing more than 3000 acres in Kern County's Delano area as a preface to new testing there, is about to spud its Capital Company No. 54-18 wildcat on Section 18-28s-25e near Shafter. Contractor is Rocky Mountain Drilling Company. From all reports testing is continuing in the company's Breen No. 1 exploratory hole on Section 19-12s-5e at Hollister in San Benito County. The well is bottomed at 4591 feet and is credited with showing gas in quantity and unofficially some oil.

Shell Oil's Shell-Intex-Voight No. 1 wildcat at Antelope Hills is redrilling at 10,800 feet, a sequel to leaving fish in hole and plugging back a total depth of 10,719 feet for another start from 10,483 feet. The well, on Section 4-28s-20e, is designed to take a gander at all formations to a dozen thousand feet, maybe less and maybe more. North of Antelope Hills, Shell's Hopkins B No. 55X-23 on Section 23-27s-19e is digging at 5760 feet.

Union Oil has decided to reach out for production about three miles northeast of the Lloyd A. Harnish discovery well in the Guijarral Hills of Fresno County. The search will be conducted by Spieler No. 27-26, starting on Section 26-20s-16e. It will be aimed for production from the Leda sand of the Oligocene formation, putting out in the Guijarral hills field. The Harnish followup to the discovery, which was suspended at 8642 feet, is likely to be carried on down to the Gatchell zone. The project evidently ran low and was located unfavorably to development of production in worthwhile amounts. Harnish has another drilling job going in the new area, and Russell Giffen has two wells digging. Outcome of these ventures will shed additional light to what may be ultimately expected from the field opened by Lloyd Harnish.

Three and one-half miles northeast of the Raisin City field, Long-Mizel & Associates of Fillmore are ready to undertake wildcat drilling with Properties Inc. No. 1-3 on Section 3-15s-18e.

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Cuyama Test Digs

Northeast of wells producing in the South Cuyama field, Clair J. Gibson as operator is making hole below 4000 feet with Goerhing No. 1 explorer on Section 23-10n-26w. Richfield's two current Cuyama Valley wildcat wells, Russell No. 88-10 and No. 55-22 on Sections 10 and 22-10n-27w, respectively, are drilling at 4400 feet and 2650. General Petroleum's Ballinger Canyon Unit No. 1 on Section 31-10n-24w is growing deeper. At last reports drilling was threatening the 10,800-foot level.

East of Avenal about 17 miles, Continental Oil Company's Westlake Unit No. 1-1 on Section 32-22s-20e, west of Tulare Lake in Kings County, is making rapid time with the drill below 1000 feet. Approximately eight miles south of Avenal, Gene Reid Drilling, Inc., has set in motion Avenal No. 3 on Section 35-23s-17e at Reef Ridge. Location is on a spread of 700 acres, with target of the well Temblor production somewhere in the neighborhood of 1500-1600 feet.

Reserve Oil and Gas Company's Reserve-Mitchel-Orchard No. 37-20 on Section 20-24s-18e in McLure Valley, a northwest offset well to Reserve's discovery, is drilling at this jotting near 4500 feet. Slightly less than two miles southeast of the new found pool, Caminol Company of Hanford has plans drawn for drilling a wildcat named Dagany No. 1 and located on Section 33-24s-18e. Operating organizations with land in the area, include Standard, Hancock and Norris. The latter, incidentally has its sight set on a 4000-acre wildcat test in the Santos Creek area of Kern County. The hunt for new oil will be conducted through the medium of CCMO No. 86-X on Section 32-28s-20e. Green & Kirkpatrick are handling engineering.

Southeast of Alpaugh in Kings County, W. W. Holmes appears to have completed a gas producer with his Winkler No. 1 on Section 28-23s-22e. Newton Drilling Company, contractor, drilled the well to an even 3600 feet.

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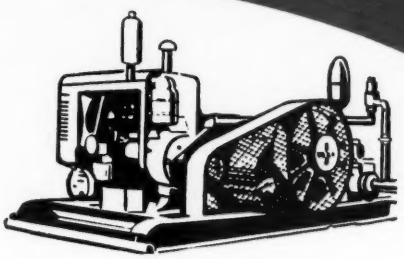

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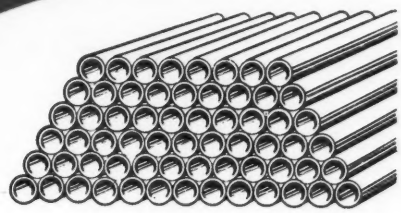

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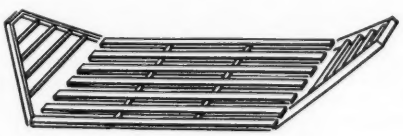

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Recent days have seen the fade-away of the four-year-old Harvester gas field, about eight miles northwest of the Trico field. It passed out of sight when Shell abandoned the field's discovery and the only well that ever produced there. The field was born in February of 1950 when the company completed Harvest Unit No. 1 on Section 11-23s-21e for more than 4,000,000 cubic feet of gas a day from an interval around 2800 feet in the San Joaquin Clay. Other wells taken down in the field added nothing commercial.

Ducor Well Spuds

C. H. Olsson, widely known oil man and Pixley rancher, has spudded his Menne-Flynn No. 2 wildcat well on Section 9-24s-28e, four or five miles southeast of Ducor in Tulare County. His Menne-Flynn No. 1 on Section 10 was recently given up at 320 feet.

Near Hanford, M. H. Stone's Oberland-Stone No. 1 explorer on Section 10-19s-23e has been abandoned at 1122 feet. Southwest of Earlimart, Ohio Oil Company is engaged in work preliminary to drilling its Jack C. Phillips, Jr., No. 1 test on Section 12-24s-24e. A. J. McGreevy's wildcat on Section 22-22s-27e in the vicinity of Porterville is down 989 feet. It is understood that casing will be run.

San Benito County is the scene of a new duster taken down by Idria Petroluem Corporation on Section 33-16s-12e. Called Barnett-USL No. 1, the well worked on Section 33-16s-12e.

Newton Drilling Company has contract rig at location to drill Chowchilla Gas Company's Redman-Roduner No. 1 test on Section 29-10s-14e in the Chowchilla area, Madera County. On Section 9-9s-14e in the Chowchilla area of Merced County, Richfield is digging at 5700 feet with its Silveria No. 1, after recovering fish.

Oxnard Wildcat On Protracted Testing

Standard of California, in a determined effort to ascertain the full worth of deeper zones in the Oxnard area, has placed its Scholle-Livingston No. 1 on the pump for a protracted test. The well is on Section 32-2n-21w and it was carried to 9433 feet before plugging back took it to 6700 feet for tests. The company's Lucas No. 1 wildcat on Section 12-1n-22w is puncturing formations at 5480 feet. Standard several months ago poked into deeper sands at Oxnard. If it so happens that success continues in this direction, this part of Ventura County will take on a new hue of drilling interest.

When Pike Drilling Company the other week set in motion Standard's State No. E-3 on Section 35-2n-23w at West Montalvo, it marked 1000 wells put down by the contractor since the organization's inception. Stanwood I. Williams, Pike executive vice president, said this appears to be a California drilling record. Standard's McGrath No. 1311 on the section has been cased with 7-inch pipe to 11,675 feet and blowout preventer installed. Present total depth is 12,456 feet.

On ground near Simi, R. B. Jackson's R & G No. 1 wildcat is down 3303 feet on Section 17-2n-18w and awaiting larger rig to carry the well on down to 5000 feet or so. Trojan Drilling Company is in charge of work. Macson Oil's Strathearn No. 1 on Section 6-2n-18w is plugged back from 2828 feet to 2105 feet and undergoing tests of upper interval.

Official advice denoted that General Petroleum Corporation's wildcat starting in the Piru area is designed to scan all formations to no less depth than 12,000 feet. It is tagged Cosby State No. 1 and is located on Section 24-4n-19w. On Section 24-4n-18w, Richard Rheem has reached 7000 feet with Larinan No. 1 wildcat and is drilling on down.

Fillmore Test Due

South of Fillmore, The Texas Company is all set to take the first stab into wildcat ground with its Kenneth H. Hunter River Ranch (NCT-1) No. 1 on Section 36-4n-20w. Over in the Camarillo Hills, Continental Oil Company's Berlywood Investment No. 1 on Section 18-2n-20w also should shortly be on the way down. In the same general area, Union's Janss No. 2 on Section 22-2n-21w is coring and drilling ahead below 5800 feet. At Las Llajas Canyon, the "7600" organization's Simi No. 24 on Section 28-3n-17w is maintaining a satisfactory drilling course at 3945 feet.

One of the most interesting prospect jobs in the coastal district at this time is Walter F. Parker's Packard No. 1 on Section 11-7n-35w near the Lompoc field. Leases totaling some 9300 acres are roughly bounded by the Santa Ynez River and the Jesus Maria field and Lompoc. Drilling at last reports was proceeding normally in the shallower formations.

At Los Alamos, Mohawk Petroleum's Barham-Schmitz No. 4 explorer on Section 12-7n-32w is redrilling at 5540 feet. It went first to 6803 feet.

On the pump for 25 barrels of 12.8 gravity oil a day, cutting 4 per cent, constitutes the final chapter in Slick-Moorman Production Company's Palmer Stendel No. 44-A test at Cat Canyon. Original bottom is 2980 feet and redrilled depth is 2800 feet, with top Miocene placed at 2710 feet.

At old Carpinteria, Tyler & Hamilton's wildcat on Section 34-4n-25w is still inactive at a depth of 935 feet. In the Zaca Creek field, Tide Water Associated has spudded another well tagged Carranza No. 1 on Section 3-7n-31w. Contractor is A. D. Rushing Drilling Company.

A yield of 23 barrels of oil daily and cutting 20 per cent is the current status of General Petroleum's Mahoney No. 1 discovery well on Section 9-10n-35w in San Luis Obispo County's Guadalupe area.

Watsonville Wildcat

The Texas Company has staked location for another wildcat venture in the Watsonville area of Santa Cruz County. The new test, J. H. Blake No. 1 on Section 12-11s-1e, is due to go 7000 feet. On Section 35-11s-13E Texaco is working with its Carpenter No. 1 on Section 35-11s-1e near 3200 feet.

Rio Hondo Oil Company of Long Beach is expected to start in the near future its Dee Comm. No. 1 wildcat in the Freeport gas area of Sacramento County. Location is on Section 20-7n-5e within the confines of a 4500-acre farmout from Standard. At Winchester Lake, the Richard S. Rheem interests have reached 6000 feet or thereabouts with Cowell No. 1 wildcat on Section 16-7n-4e. Rheem is represented by drilling operations in all parts of the state.

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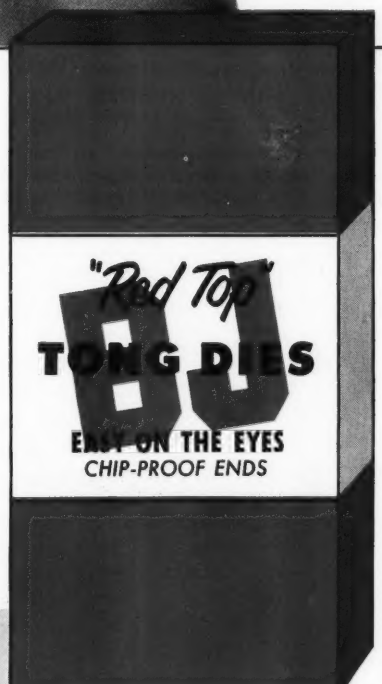

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wildcat, within hearing distance of the booming surf at Petrolia in Humboldt County, has come to a stop at 2560 feet. The heavy rig has been moved from location on Section 13-1s-3w.

General Petroleum's designated Cretaceous test well in Glenn County's Beehive Bend area is on the way down. Named McGowan No. 1, the wildcat is on Section 25-19n-2w or about one and one-half miles south of the closest production. In the Gridley area, Sunray Oil's Justeson No. 1 wildcat on Section 21-17n-2e is making hole rapidly ahead around 4900 feet.

In the Biaggi sector of Monterey County, Contra Flush Drilling Company of Long Beach was last reported coring slightly above 1000 feet with Biaggi No. 3 on Section 12-22s-9e. The drill site is no great distance from The Texas Company's Biaggi No. 2, which was completed in August of 1948 and for a time put out some oil. Four miles south of the San Ardo field, Hames Valley Development Company's Peri No. 1 test on Section 30-23s-10e is in the preliminary stages.

Northeast of the Marysville Buttes gas area in Sutter County, Richfield's Butte Comm. No. A-4 wildcat on Section 9-16n-2e is drilling at 3875 feet. Clyde Hall Drilling Company will carry the project to no less than 5000 feet. Near Modesto in Stanislaus County, Standard's Young Comm. No. 1 test on Sec. 34-3s-8e is threatening the 13,700-foot level, as this is set down.

At Point Reyes in Marin County, P. M. Oil & Gas Company's P. M. No. 1 prospect well on Section 36-3n-9w still stands idle at a dozen hundred feet. Future moves of the project have not been reported.

Ted Sterling as operator has abandoned Browning No. 1 test on Section 17-12n-1e in the Zamora area of Yolo County. The project was seeking a northwest extension of the Dunnigan Hills-Northeast sector. In the Saxon district, General Petroleum is about ready to plumb the depths with its Glide-Court No. 1 wildcat on Section 10-7n-3e.

Solano Completion

Accurate evaluation of Arcady Oil Company's Fahn No. 1 well is yet to be made. The well, Fahn No. 1 wildcat on Section 9-5n-3e at Liberty Cut in Solano County, was completed at 5000 feet and started off flowing gas at an unestimated rate. A 10/64-inch bean was in use.

Yucca Valley Wildcat Remote From Production

Wildcat drilling always holds a certain fascination. Moreover, a well in this category is usually even more provocative when location is in the wide open spaces far remote from any production. Such a well appears to be the Retari Company, Inc., Retari No. 1 on Section 25-2n-5e in the Yucca Valley area of San Bernardino County. The drill site is in desert country on a block of 18,000 acres of leases between Apple Valley and 29 Palms. The most recent report indicated drilling was following a normal path several hundred feet below grass roots.

Deepening plans are understood to have been formulated for Lee Drilling Company's Eureka-Ruben No. 1-29 wildcat on Section 29-2s-7w near Chino. The well at present is at a 1737-foot standstill.

In Los Angeles County, The Texas Company is drilling rapidly ahead below 1200 feet with its Newhall No. A-4 wildcat on Section 15-4n-16w. northwest of Saugus, a town chiefly known for its rodeos. Texaco's Long Beach Airport No. 1 on Section 20-4s-1w in the city made famous by Signal Hill is digging at 11,400 feet.

A depth of 4200 feet spelt out abandonment for R. E. Bering & Associates' Perkins No. 1 test on Section 11-3n-16w at Newhall. A test from 4000 feet to bottom reacted with gas-cut mud and a trace of oil.

Four miles northeast of Castaic as the crow flies, Standard Oil is ready to kick off with its Lyon Ranch No. 1 exploratory hole on Section 7-5n-16w at Elizabeth Lake Canyon. Completion attempt has been inaugurated in Standard's Mission No. 5-1 wildcat in the San Fernando Mission district on Section 2-2n-16w. Total depth is 9510 feet, with plug at 6200 feet and the 7-inch casing set at 5990 feet. Mission No. 6-2 on the section is drilling without interruption at 8740 feet.

Artesia Test Starts

Artesia, not far off production in several directions, has attracted the attention of Hollandia Oil Associates, which has staked location for Hollandia No. 1 wildcat in that area on Section 30-3s-11w. In the nearby Santa Fe Springs field, Carlton Beal & Associates' Eagle No. 1 well on Section 6-3s-11w is pumping currently at the rate of 45 barrels of 30.2 gravity oil a day from a redrilled depth of 7775 feet. Original bottom was 7830 feet.

Sunset Oil Company's development program in the Placerita field is being sustained. The company's next two drilling jobs will be W. F. No. 20 and Kraft No. 35 on Section 31-4n-15w. In the Newhall-Potrero area, Sunray Oil Corporation's R.S.F. No. 117 test on Section 34-4n-17w is carrying on with the drill near 11,100 feet. Recent digging has been troubled with some loss of circulation.

Union Oil's Simi No. 23 wildcat on Section 9-3n-17w at Chivo Canyon stopped at 9492 feet and was officially abandoned at that depth. A final check was taken with electric log and dipmeter.

On wildcat territory at Sansinena, the T. F. Vander Laan, Operator, Vander Laan No. 1 is maintaining its drilling course at 3400 ft. Terminal Drilling Company, contractor, is taking the project down on Section 30-2s-10w.

Seaboard Oil Company's Thorpe No. 1 test on Section 24-6s-11w at Huntington Beach in Orange County is being redrilled after it was plugged back from a total depth of 7622 feet to approximately 2100 feet. Despite the fresh start, the well the first time down found some encouragement, but it appears that formations penetrated were badly broken up. Pacific Supply Co-Operative's Lamb No. 2-6 wildcat on Section 6-6s-10w also is redrilling after plugging back from 5832 feet to 4600 feet. In the Huntington Beach field proper, Signal Oil & Gas Company's current drilling program includes five wells at various operational stages.

Redrilling operations also accentuate Monterey Oil Company's Newport Beach No. 1 test on Section 29-6s-10w at Newport Beach. The project went first to 7125 feet and was then redrilled to 4518 feet. The latest report indicated bottom had been plugged at 4458 feet for a conventional test. Santa Maria Drill-

OHIO OIL

IS MAKING HISTORY

DRILLING THE DEEPEST WELL IN THE WORLD IS NOT THE ONLY RECORD BEING MADE BY THIS PROGRESSIVE COMPANY

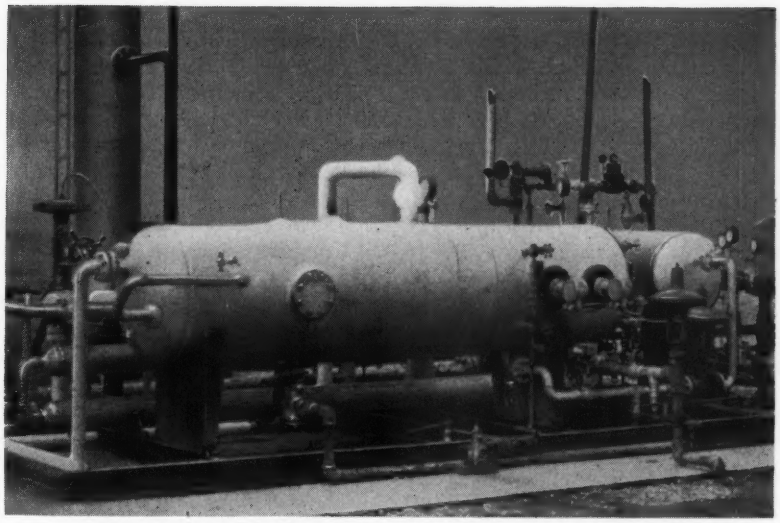
Two years ago, the Ohio Oil Company was first to see the possibilities of the **AMERICAN-NATIONAL LTX*** (Low Temperature Extraction) Unit, and installed one in their Belgian Anticline field in Kern County.

OVER $6000 PER MONTH INCREASED PROFIT

By taking full advantage of all the unique and revolutionary features of this unit they secured savings of $200.25 per day, over and above previously tested conventional type production units. Increased condensate, higher blending value and lower dehydration costs combined to produce these highly satisfactory results.

This "Success Story" proves again the value of knowing the right equipment to use for any specific well head operation.

Details of this saving and possible application to your own problems may be had by telephoning or writing to the **American Pipe & Steel Corporation, Alhamhra, California,** ***supplier of unit.***



This **AMERICAN-NATIONAL** ***L. T. X. unit was the first to be installed on the Pacific Coast. It was supplied by American Pipe & Steel Corporation to the Ohio Oil Company and installed two years ago in their Belgian Anticline field. Its cost was about one-twentieth that of conventional type plants accomplishing the same results.***

SPECIALISTS IN CALIFORNIA OIL FIELDS

The engineers and field service men of the Oil Field Division of **AMERICAN** confine their activities exclusively to California. This intensive concentration over many years insures thorough familiarity with the needs and problems faced by California oil producers. This is why we are able to cooperate so effectively with our customers in recommending the right equipment to use for each well head operation.

A COMPLETE LINE

The **AMERICAN-NATIONAL** line of products not only fills every present production need but is constantly being augmented with new and advanced designs by the world's foremost petroleum equipment engineers.

ABSORBERS • ADSORBERS • CHEMICAL PUMPS • DEHYDRATION UNITS, GAS • DESULPHURIZATION UNITS, GAS • DISTILLATE RECOVERY PLANT EQUIPMENT • FLUID BOOSTERS • HEATERS • LOW TEMPERATURE EXTRACTION UNITS (LTX). • SALT WATER DISPOSAL EQUIPMENT AND SYSTEMS • SCRUBBERS • SEPARATORS • STAIRWAYS • TANKS • TREATERS • VACUUM TRAPS • VESSELS • WATER KNOCKOUTS

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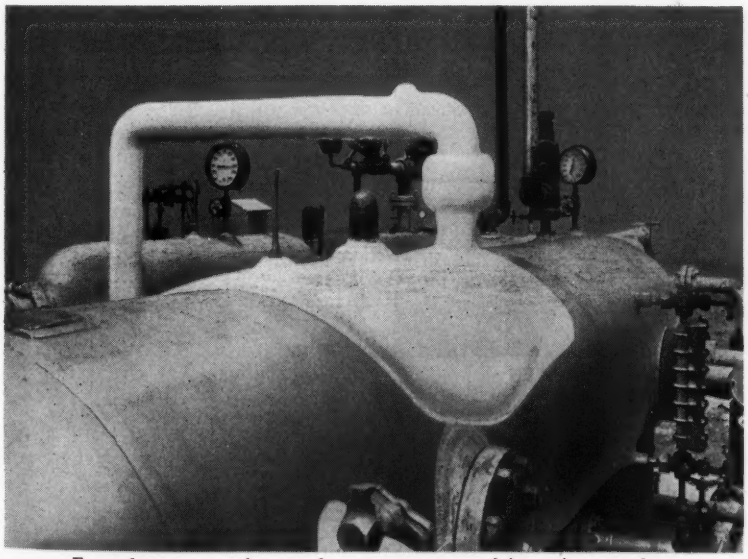

Frost forms on main vessel as temperature of incoming gas drops over 70 degrees. This cooling effect brought about by gas expansion freezes out the water content giving complete dehydration. Recovery of maximum hydrocarbons results—in this case 46.5% higher than previously tried methods. A patented design prevents freezing of the system during this operation.

*Patented and patents applied for.

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AMERICAN PIPE & STEEL CORPORATION

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ing Company is in charge of work on the well, which is an offshore test.

The Sunny Hills Ranch area also is the scene of redrilling activity. Richfield's Edward No. 1 on Section 15-3s-10w is engaged in this type of work below 6800 feet, after carrying the hole the first time down to 9591 feet.

San Clemente Wildcat

Down the south coast San Clemente way, The Texas Company is engaged in preparative work leading to the drilling of an interesting wildcat test known as O'Neill Estate No. 1 and located on Section 22-8s-7w. A surprising number of geologists have given territory in and around San Clemente a chance for development of oil. If the Texaco venture should stab zones of commercial worth, an expansive area would be open to new drilling. Further south at San Juan Capistrano, wildcatting has been conducted on a small scale. At any any rate, these wells apparently missed production and failed to turn up much of interest.

The Texas Company's drilling calendar includes Huarte No. 1 test on Section 7-4s-9w in the Olive area, and Dominguez No. 1 on Section 9-3s-18w, east of the Richfield field.

Drilling contract has been assigned to J. B. Nelson Drilling Company to take down Argyle M. Campbell's Federal No. 1 exploratory well on Section 6-11s-21e, southwest of Blythe in Imperial County.

Back in Los Angeles County, Richfield is nearing the spudding stage with its Petitfils No. A-1 wildcat venture on Section 10-2s-10w in the Walnut area.

In the Torrance field, opened by Chanslor-Canfield Midway Oil Company in June of 1922, Pacific Western Oil Corporation has completed Marble No. 30 on Section 15-4s-14w pumping 70 barrels of net oil a day from 4925 feet. The well was drilled by a company rig.

Hathaway Company has made locations for two additional wells in the Leffingwell district. They are Shoemaker No. 1 and Woodward No. 3 on Section 11-3s-11w. Tanamachi No. 1 on the same section has been completed at 8705 feet, but representative production gauge is not yet available. Rothschild Oil has location staked for Hobbs Comm. No. 1 on Section 11, and at this writing is completing Woodward No. 1 at a depth approximating 8500 feet.

General American Oil Company of Texas is credited with purchasing a half-hundred wells producing in the Wilmington field. Twenty were said to have been obtained from O. M. Slosson, 17 from the P. H. B. Oil Company, and 13 from Brain & Cooper.

Pike Pusher Bill Klassen Born On An Oil Lease

W. G. "Bill" Klassen, Assistant Drilling Superintendent for Thomas P. Pike Drilling Co., Los Angeles, made sure he would get into the oil business by being born on an oil lease. He has never wanted to be anywhere else since. In fact he couldn't get away from drilling even when he was in the USN Seabees from 1942 to 1945. There was no oil on Guam, except in drums, so Uncle Sam made him Chief Petty Officer in charge of water well drilling.

W. G. KLASSEN

Bill was born in Brea Canyon California, which is still a producing oilfield, where his father was in the oilfield teaming contracting business. In 1932, when he was 19, since his father had turned to farming, Bill went to work for Associated Oil Co. as a rotary helper on Williamson No. 1 in the Lost Hills Field. In 1934, he left Associated and drilled for several companies around Santa Maria, California until he finally went to work for Hancock Oil Company and worked as a driller on Hancock's Craig Ship Yard oil development, remaining until the lease was fully developed in 1938.

Then Southwest Exploration was formed in Huntington Beach, and Bill went with the firm to take charge of construction work . . . setting boilers, pipe lines, tanks and building roads. Here he remained until the Long Beach Oil Development Co. was formed in the early part of 1939, when he was transferred there as Assistant to Jay Gifford, General Superintendent of the firm. He enlisted in the Navy in 1942 and didn't get back to Long Beach Oil Development until 1946. He stayed a few months there and then became Toolpusher for Camay Drilling Company where he finally advanced to Drilling Superintendent prior to joining Thomas P. Pike Drilling Co.

In 1951 his wide experience and resourcefulness made him a logical choice for the job of superintending the Pike project of drilling a wildcat for Petroleos Mexicanos in Baja California. Equipment had to be transported with lighters and converted naval transports for 800 miles in the open sea to San Ignacio Lagoon, Lower California. There it was landed on the beach without any wharfing facilities and moved inland for 12 miles. This project necessitated building 25 miles of road, providing a landing field for DC-3's and setting up a camp and commissary arrangements for about 60 persons, bringing water by tank truck for 9 miles and other little chores requiring executive know-how,—all this in temperatures up to 118 degrees. It was like being back in the Seabees, but that's the drilling business for you.

He is now Assistant Drilling Superintendent in charge of the Southern Division for Thomas P. Pike Drilling Co., Los Angeles.

Oliver S. Ambrose in charge of Tide Water Associated Oil Company's economics and petroleum analysis department, moved recently to San Francisco from New York.

America's New Railroad

Looking ahead on the Santa Fe

You've been reading a lot this year about things that make and keep the Santa Fe "America's New Railroad."

New cars, new locomotives, new yards, new tracks, new communication methods, new streamliners and new freight services.

So it goes, day-after-day, on the Santa Fe—this building new. For only by constantly building and rebuilding can a railroad stay new and ready for the future.

So it will be in '54 and in the years ahead—with important new projects like these now under way:

NEW CHIEF TO SAN FRANCISCO... In early '54 a whole new streamlined train—the *San Francisco Chief*—from Chicago to the Golden Gate in 47½ hours, via the San Joaquin Valley through the colorful Southwest Indian Country.

NEW RAILROAD TO DALLAS... 48.5 miles of it. Now being planned to provide direct mainline service to shorten time and mileage for passengers and freight between Dallas and Chicago and points in Oklahoma, Kansas and the Midwest.

NEW IMPROVEMENTS ALL ALONG THE LINE... Little things, big things—all things that are important to the people who ship and ride on "America's New Railroad."

The millions of dollars this newness costs Santa Fe doesn't cost *you* a single penny in the taxes you pay.

* * * *

All these things help to provide better service for Santa Fe patrons. They inspire Santa Fe people—the men and women whose thoughts, ideas and physical efforts are what make the operation of "America's New Railroad" possible.

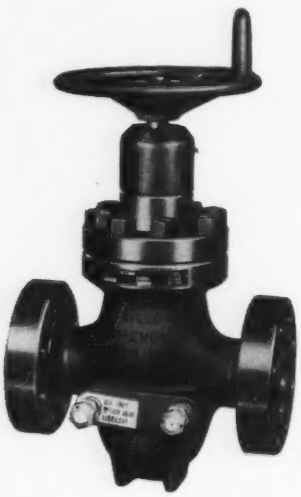
But their feeling for their railroad goes much deeper. It's a combination of things—a great respect for tradition, mixed with equal respect for the daring it has taken to break with tradition. It's a sharing of the "let's-do-it-better" spirit that keeps the Santa Fe growing *newer* every day.

PROGRESS THAT PAYS ITS OWN WAY

Santa Fe

McEvoy Co. Appoints Coastal Engineering Co.

McEvoy Company of Houston, Texas, recently announced the appointment of the Coastal Engineering Company, headed by Mr. W. C. "Casey" Jones, as their California factory agent. Mr. C. F. "Cy" Johnson, Executive Sales Manager of McEvoy Company, made the announcement.



McEvoy Company have been supplying the oil industry since 1906, and their equipment, such as McEvoy Conduit Automatic Self-Sealing Gate Valves, and McEvoy Automatic Gas Lift Valves, is sold through leading supply stores everywhere.

The McEvoy Conduit Two-Way Gate Valve is pictured above. The patented sealing features of this valve are shown in a special brochure which is available upon request. In this brochure the gate is so made that it may be moved up and down.

"We of McEvoy sincerely believe that through our association with Mr. Jones and Coastal Engineering Company, we will furnish the best possible service to our many friends in the important West Coast Petroleum Industry," Mr. Johnson said.

Also available to the trade is their recently completed Bulletin 101 which pertains to the McEvoy self-sealing gate valves and is one of the most complete pieces of valve information ever published by this firm. It contains information on API and ASA round port-through conduit, two-way full and regular port valves as well as API oil field ratings and ASA table of maximum service pressure ratings on all valves in psi with temperature ranges.

The special valve brochure and Bulletin 101 may be obtained from Mr. Jones, P. O. Box 1618, Bakersfield, California, or by writing direct to McEvoy Company, 600 Milby Street, Houston, Texas.

Kennametal Balls and Seats Permit Production Increase In Texas

A twenty per cent production increase and also one-third less maintenance cost have been reported as resulting from a standardization of Kennametal valving on one hundred and fifty wells in the lower west Texas field. Prior to the installation of Kennametal, a total of approximately twenty-two wells have been known to be down at one time. Since installation and over a period of six months, the average number of wells that have been down simultaneously has been reduced two or three units. Well production is reported at between 10 and 20 barrels of net oil per day, per well, with an average depth of 4500 feet. Major problem, according to the report, was flour cutting out of the ball and seat, corrosion and galvanic action.

Since May 1, 1951, at which time the entire 150 well field was standardized with Kennametal, operators were able to release one of the three pulling units and its crew for work in another field.

Guiberson Corp. Completes New Plant Addition

Completion of an extensive and highly specialized Hydraulic Testing Laboratory and Engineering Building is announced by Gordon G. Guiberson, President of The Guiberson Corporation, Dallas, Texas.

Guiberson's new 12,000 square foot completely air conditioned Engineering Building and Hydraulic Testing Laboratory.

The new laboratory provides field condition testing of Guiberson oil field equipment and is equipped with three cased test holes incorporating high pressure and high temperature testing equipment. The laboratory utilizes the full height of the two-story building plus an 8 foot well cellar, which allows the engineers to run swabs and set packers and anchors as though they were at the well location.

The new two-story brick and stone Engineering Building incorporates many modern facilities. Completely fire-proofed, the building houses an engineering staff of 20 and is built to support an additional floor.

On the first floor is a completely modern Drafting Room, with facilities for 30 engineers and draftsmen and the Central Print File, which gives quick availability of prints on all current Guiberson tools and parts.

The second floor accommodates a spacious Conference Room, seating over 100 people and with facilities for showing technical films and field

Merry Christmas
General Petroleum Corporation

movies. A complete display of Guiberson tools is maintained in the Conference Room.

Two other service departments are on the second floor: the Library, with a complete file of oil field equipment magazines, catalogs, reference books and Patent Office Gazettes; and the Blue Print Room, with a 48" printing unit, plus a fireproof vault where 25,000 original drawings are filed.

One of the most modern and specialized facilities found in an oil field equipment manufacturing plant, the new Guiberson Engineering Building and Hydraulic Testing Laboratory will greatly augment Guiberson's already extensive research and testing. By giving field men quicker, more reliable answers to their problems, it will result in important benefits to the industry.

Kennametal Meets Severe Abrasion Test

Remarkable performance from an abrasion standpoint, using Kennametal seats and Kennametal lightweight balls, has been recently reported by a large operation located near Houston, Texas. In this extremely severe pumping, using the above-mentioned balls and seats for double valving, the pumping unit sanded up and had to be surfaced and brought into the shop for cleaning every five weeks. Check valving, however, had continued to be perfect throughout this period and when checked, Kennametal balls and seats showed no evidence of wear. Pumping conditions are reported as 90% wet, 400 bbls. of fluid per day, 74-inch surface stroke, 22 strokes per minute. and the pump is at a depth of 5.000-feet. Pump bore size in this operation was 2¼ inches. The salt water is highly corrosive, gases are very heavily saturated with hydrogen sulphides, and the oil which is 26 gravity contains 8% sulphur. These conditions in addition to a very fine sand has made pumping one of the most severe problems.

Fluor Awarded Contract

The Fluor Corporation of Canada, Ltd,, of Toronto, Ontario, has been awarded a contract for the design and engineering, material procurement and construction of a Standard Oil Development Company Model IV fluid catalytic cracking unit to be built for the Standard Oil Company of British Columbia Limited at its Vancouver, British Columbia refinery, it was announced recently by J. P. Wiseman, President of the Fluor Corporation of Canada, Ltd.

The unit will have a fresh feed capacity of 3,750 barrels per day. The project also will include related facilities consisting of fractionation, gas recovery and caustic treating sections in conjunction with the Vancouver refinery's expansion, Wiseman said.

Engineering work will get under way immediately and Fluor will begin actual construction of the new unit in March, 1954. Completion of the project is scheduled by October 1, 1954.

The Fluor Corporation of Canada, Ltd., is a wholly-owned subsidiary of The Fluor Corporation, Ltd., engineering and construction firm of Los Angeles, California.

Shell Pipe Line Establishes Denver Division

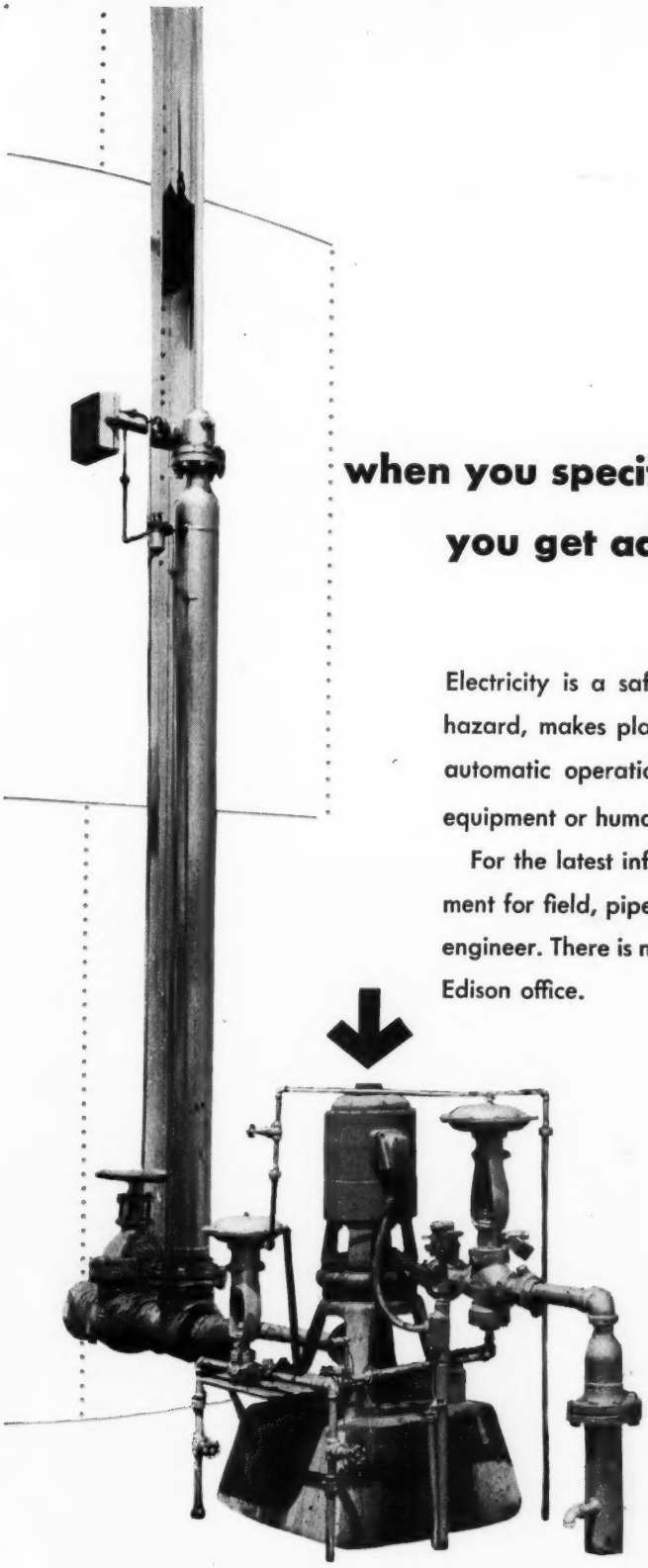
The establishment of a Denver division for Shell Pipe Line Corporation, with headquarters in that city, was announced recently by T. E. Swigart, president, in Houston.

The new division office, to open in December, will assume operation of the company's gathering systems in the Denver-Julesburg basin, and handle future pipe line developments by the company in the Rocky Mountain area and the Williston basin. Division superintendent will be Roy Belshe, who will be transferred from Wichita, Kan. Division personnel will be located in Denver's new Shell building, now under construction, which is also to be headquarters for Shell Oil Company's recently established Denver exploration and production area. The gauging staff will work out of Sterling, Colo.

Shell Oil Company's activities in this area include drilling and production activities in the Denver-Julesburg basin, some 125 miles northeast of Denver, and in the states of Wyo., Mont., N. D., S. D., and Nebr.

Shell Pipe Line Corporation's operations are divided into three areas—the Texas-Gulf, with headquarters in Houston, West Texas, with offices in Colorado City, Tex., and the Mid-Continent, with headquarters in Cushing, Okla. The new Denver division will operate under supervision of the Mid-Continent area office.

L. B. O. D.'s Well No. W-309 in the Long Beach field with Camay Drilling Co. putting the hole down. Left to right (front): C. W. Bobbitt, supplyman; T. R. Paulsen, racker; R. C. Coley, driller. (Rear): Ed Dean, cathead and C. F. Timmerman, lead tong.



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SOUTHERN CALIFORNIA EDISON COMPANY

THIS

LAUGH OFF!!

Doctor: "There goes the only woman I ever loved."

Nurse: "Why don't you marry her?"

Doctor: "I can't afford to. She's my best patient."

"My dear! What a lovely coat—it must have cost a fortune!"

"No, it cost only a kiss."

"A kiss you gave your husband?"

"No—one that he gave the maid!"

When the husband arrived home earlier than usual, he found his wife in the arms of his best friend.

"I love your wife," explained the friend, "and she loves me. I'll play you a game of cards for her. If I win, you divorce her, and if you win, I promise never to see her again. Will you play the game with me?"

"All right," the husband agreed, "but how about a penny a point to make it interesting?"

The second floor tenant called the party below and shouted: "If you don't stop playing that blasted saxophone, I'll go crazy."

"I guess it's too late," came the reply, "I stopped an hour ago."

"Tell me, to what do you attribute your remarkably long life?" asked the Houston reporter.

The Texan thought for a moment, then spoke gravely.

"Well," he replied, "I never stole a horse and I never called a man a liar to his face."

He: "Know how porcupines make love?"

She: "How?"

He: "Cautiously."

"Did she blush when her shoulder strap broke?"

"I didn't notice."

"I'll meet you halfway," said the wife during an argument. "I'll admit I'm right if you admit you're wrong."

Sympathy is what one girl offers another in exchange for details.

A woman's best asset is a man's imagination.

To entertain some people, all you have to do is listen.

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In the west, Lo Prest engineers have pioneered the use of latest water conditioning techniques for over 25 years. Softeners now occupy less space than ever before . . . de-alkalizers now regenerate without acid . . . demineralizers now produce mineral-free water at a fraction of distillation costs.

Almost all natural water is hard. If you use water, you can increase efficiency, save money, reduce breakdowns with up-to-date approved methods and materials. Call or write for literature and analysis of your own problems.

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